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JAMES M. NORTHINGTON, M.D., Editor

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No. 1

Obstetrical Anesthesia and Analgesia

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ONE could not initiate a discussion of this subject more aptly than to emphasize the statement of Snyder,¹ which says: "What makes the introduction of anesthetic agents in the course of labor an obstetric problem of first magnitude is that the influence of these substances upon the outcome of labor is so great that the risk involved for mother and child may be out of all proportion to the gain in pain relief."

Presently, we should recall that 80 per cent of all live births occur in hospitals. United States Census Bureau figures indicate that in large urban areas as high as 94 per cent of live births occur in hospitals, about 60 per cent in rural areas. The increasing number of hospital deliveries is an index of the extent that analgesics and anesthetics are freely employed. We cannot lose sight of the fact that analgesic and anesthetic agents, those which are capable of obtunding pain and producing narcosis, are some of the most potent and lethal agents known in pharmacology. There is a definite dual consideration, mother and fetus, and we must consider the two inseparably. Previously, the fetus, with respect to the management of labor, was thought of more or less morphologically, rather than physiologically. In other words, various anatomical and developmental entities capable of pro-

ducing dystocia, were the primary considerations.

It is vitally important that the role of analgesics and anesthetics be thoroughly explored and that the genesis or origin of certain intranatal injuries may be linked to these agents. In brief, we must determine to the best of our ability the following facts:

1. What is the pharmacologic action of the agent on both maternal and fetal structures?
2. What fetal or maternal diseases, such as diabetes, thyrotoxicosis, cardiac diseases, eclampsia, etc., or abnormalities exist which may influence the selection of certain agents?
3. What agent or agents and method are best suited to the emotional and physical status of the mother?
4. Is the method used one which will afford the greatest safety to the mother and infant?

Certain criteria are essential to proper choice of agent and method. These agents should possess adequate properties to obtund the pains of labor without any untoward systemic reaction. Secondly, the agent should be reasonably prompt in its action and should not possess cumulative effects. Thirdly, effective means of counteracting an overdose or idiosyncrasy to the agent should be available.

It might be pointed out at this time that the wisdom or advisability of the attempts to relieve the pains of labor totally have been seriously questioned by some authorities on this subject. De Lee

Presented to the Tri-State Medical Association of the Carolinas and Virginia's Fifty-first Annual Meeting, held at Fayetteville, N. C., February 20th-21st, 1950.

and Greenhill² have emphasized repeatedly the price that is paid to make childbirth painless. Heaton³ in writing on obstetric anesthesia and analgesia commented: "Perhaps, as the psychiatrists have suggested, the inordinate demand for painless childbirth is symptomatic of the anxiety and insecurity existing among certain groups in our culture today. It is questionable from a psychologic standpoint whether the passive role assigned to women in painless childbirth is a desirable one."

Opinions of various investigators with respect to the effects of certain agents are occasionally controversial, so that the comments made here are a composite opinion and not one individual's conviction.

Many methods of analgesia and anesthesia have been proposed but some of these are limited in their practical application because they are too technical and complex. Continuous caudal anesthesia might be mentioned as an example of a highly technical procedure which is very valuable but has limited application. In the conduct of the average uncomplicated labor and delivery the obstetrician and the anesthesiologist, singly or together, focus their attention on amnesic, analgesic and anesthetic agents which will obtund pain and produce at least relative amnesia. In the first stage of labor analgesic and amnesic agents are usually sufficient. In the second and third stages of labor anesthetic agents are required, as a rule.

AMNESIC AND ANALGESIC AGENTS IN THE FIRST STAGE OF LABOR

At present, scopolamine in conjunction with a barbiturate such as pentobarbital sodium is one of the most effective combinations. The dose of scopolamine is 1 150 or 1 100 grain (0.00043 or 0.00065 gm.) hypodermically administered when labor pains are well established and regular and there is effacement and beginning dilatation of the cervix. Simultaneously 1 1/2 to 3 grains (0.1 to 0.2 gm.) of pentobarbital sodium are given orally. The administration of scopolamine is repeated about one hour after the initial injection. Some authorities recommend three doses of 1 100 grain (0.00065 gm.) of scopolamine alone subcutaneously administered at intervals of half an hour when labor is established. The duration of action of scopolamine is about two hours in the dose mentioned. In prolonged labor additional amounts of scopolamine may be required at intervals of two hours. At least one drawback to this method is the occasional occurrence of extreme excitability and stimulation of the patient, necessitating constant nursing attention.

Another combination of agents which has more analgesic effect as well as amnesic action is the use of scopolamine, barbiturates and demerol. The experience of several investigators has shown that

the combination of demerol and scopolamine causes less fetal respiratory depression than scopolamine and demerol plus a barbiturate. A suggested regimen with these agents is the hypodermic injection of 100 mg. of demerol along with 1 150 grain (0.00043 gm.) of scopolamine when the labor pains are strong and regular. If these two agents are not quite sufficient a barbiturate can be given orally or rectally as a supplement. The administration of demerol and scopolamine may be repeated at intervals of three to four hours.

At this point a word should be said about morphine and pantopon. In general, these opiates should not be used within less than two hours from the time of delivery, since they cause fetal respiratory depression, plus delay in emptying of the uterus. When a general anesthetic agent follows in sequence the incidence of asphyxia neonatorum is definitely increased. This is particularly true when one is dealing with premature infants.

Rectal analgesia should be mentioned because it is liked by many obstetricians and is a well-accepted method of producing analgesia in labor. Ether in oil (65 per cent ether—35 per cent oil), the original Gwathmey technique, has been modified to include paraldehyde, avertin, chloral hydrate and pentothal sodium as rectal analgesics. The use of intravenous anesthesia is not recommended, as a rule, in labor because of the rapid and concentrated action of the agent on both fetal and maternal respiration.

Of the inhalation anesthetic agents for obstetric analgesia both the volatile agents, such as ether, chloroform and divinyl ether, and gases, such as nitrous oxide, ethylene and cyclopropane, are employed. Whereas various techniques of administration of these agents have been described, including self-administration, they are usually administered during the second stage of labor when anesthesia rather than analgesia is required.

ANALGESIA AND ANESTHESIA IN THE SECOND AND THIRD STAGES OF LABOR

Multiparous women give birth frequently spontaneously without the addition of any agent other than the basal analgesia supplied. In most cases, however, some form of general anesthesia or regional anesthesia is required. Time-honored drop ether and chloroform are used extensively, particularly in deliveries at home. In hospitals where the assistance of an anesthesiologist is available many combinations of agents may be used. During delivery when the presenting part distends the perineum the depth of general anesthesia should be carried to plane one or two of the third or surgical stage of anesthesia. Uterine contractions are not abolished at this level of anesthesia but such procedures as episiotomy and application of forceps can be done without pain to the patient. Nitrous

oxide will usually require the addition of ether vapor to provide safe anesthesia in the second and third stages of labor. One should avoid using any concentrations of nitrous oxide greater than 80 per cent along with 20 per cent oxygen. Cyclopropane and ethylene are best suited for the terminal stages of labor and should be administered carefully by the closed technique. For the most part, I emphatically suggest that nitrous oxide not be used for colored people for analgesic purposes unless the agent is augmented by ether.

REGIONAL ANESTHESIA

Many procedures have been and are being used, including pudendal block, transsacral block, paravertebral block, caudal block, local infiltration and low spinal anesthesia. Certain techniques require specific training, skill and experience; others, such as local infiltration and pudendal nerve block, require minimal specialized technique. Tucker and Benaron,⁴ Cleland,⁵ Lull and Hingson,⁶ Lundy and Tovell⁷ and others have described their techniques, and the merits of these techniques are well established. For example, pudendal nerve block is a successful type of block anesthesia for many obstetric operations, including spontaneous delivery, low forceps application, episiotomy and perineorrhaphy. The contribution of Hingson and others has shown that the continuous caudal method has a definite place in obstetric anesthesia. It should be performed only by those persons familiar with and sufficiently trained in regional anesthesia to know the indications and contraindications to the method. Caudal anesthesia is applicable chiefly to hospitalized patients. Low spinal or saddle anesthesia with hyperbaric solutions is becoming more and more widely used. Any one of several local anesthetic agents may be used; for example, procaine hydrochloride or pontocaine hydrochloride and nupercaine hydrochloride with glucose. If procaine hydrochloride is used, 50 to 75 mg. are dissolved in 2 c.c. of 10 per cent solution of dextrose. After a lumbar puncture at the level of the third and fourth lumbar interspace, this mixture is diluted with an equal volume of spinal fluid and injected slowly. The injection is made with the patient in the sitting position. Anesthesia is established quickly and lasts for one to one and a half hours. Postpartum bleeding is diminished and the babies have little, if any, respiratory or circulatory depression.

CAESAREAN SECTION

Caesarean section presents a difficult problem as to the choice of anesthesia. What may be best for the mother may not be best for the fetus. Prolonged general anesthesia leads to marked fetal respiratory depression and often to death of the fetus. Improperly controlled spinal anesthesia has led to disastrous results. Local infiltration or block anesthesia of the lower abdominal wall in combination

with inhalation anesthesia or intravenous anesthesia at the time the uterus is opened has been advocated by many authors. If the timing of the general anesthetic agent is correct, little, if any, depression of the unborn child occurs. The objection to this procedure by the mother is the main obstacle.

Hingson has advocated continuous caudal anesthesia utilizing posture to advance the anesthesia high enough to permit incision of the abdominal wall above the umbilicus. The continuous spinal technique has offered another method of anesthesia which, if performed carefully, will permit safe and satisfactory results for the mother and child. There is usually less loss of blood in caesarean section with local, caudal or continuous spinal anesthesia than with inhalation anesthesia. Of the inhalation anesthetics, if they alone are used, cyclopropane is best as far as the baby is concerned but resuscitation procedures are much more common in these cases than with regional methods or combinations of regional and general methods.

ANESTHESIA IN COMPLICATIONS OF PREGNANCY

Several outstanding complications are noteworthy; namely, (1) hypertensive cardiac disease, (2) nephritis, (3) preéclampsia and eclampsia, (4) pernicious anemia, (5) leukemia, and (6) other blood dyscrasias, including hemorrhagic diathesis. In the presence of these complications local or regional anesthesia is to be preferred to general anesthesia, particularly with ether, chloroform or avertin.

Snyder's⁸ work along with his associates has established the fact that intra-uterine pneumonia, atelectasis, and asphyxia are the three most serious complications during intra-uterine life. It is not feasible in this discussion of anesthesia in obstetrics to enlarge on these conditions, but rather to mention them generically since analgesics and anesthetics are definitely serious additions to the fetal and maternal burden. By way of emphasis let us remember that the problem of injury of the fetus as the result of the administration of an anesthetic agent to the mother has two main aspects; (1) direct action on the fetus; and (2) the effect on the mother and especially the effect on the labor mechanism. Prolongation of labor is striking when morphine is given at the onset, as contrasted with its action on the uterus before labor begins. Morphine, in labor, delays perceptibly the efficiency of the uterine expulsive mechanism. There are situations, however, where morphine is and would be indicated, namely in premature labor. In these instances obviously we are attempting to diminish uterine irritability and prevent establishment of labor.

The management of the uncomplicated obstetrical delivery should present few difficulties as a rule.

as compared with those which present definite abnormalities. However, it is in these so-called normal uncomplicated cases that we encounter asphyxias which are unexpected and for which we are not fully prepared to act immediately. Let me emphasize that a definite routine of resuscitation should be established and the necessary apparatus and stimulants readily available. All too frequently, the resuscitation procedure becomes a hodge-podge of errors!

During the first stage of labor when barbiturates, morphine or demerol or similar opiate substitutes are used we should consider the more liberal use of oxygen by nasal catheter or face mask in order to minimize the possibility of fetal hypoxemia. Since it is not possible to predict the pharmacologic response in each patient from a given initial dose or subsequent dose of an analgesic we should be prepared to combat any respiratory depression evident in the mother, as soon as possible. Fetal cardiac irregularities, such as bradycardia, feeble quality of the heart tones, extreme tachycardia, etc., are ominous signs and well known to all of us.

Certain stimulants such as ephedrine or methedrine, or neosynephrine may be useful during labor if a sharp fall in blood pressure occurs. Likewise, fluid therapy intravenously may be needed, in addition to elevation of the lower extremities which will act as an auto-transfusion especially in cases having caudal, or saddle spinal anesthesia.

SOME FURTHER ADDITIONS TO THE MANAGEMENT OF PAIN DURING LABOR

It is a poor year that some one does not push a new procedure in obstetrical analgesia or anesthesia. We have momentarily the continuous pitocin drip, intravenous nembutal and scopolamine, pentothal sodium and curare, intravenous procaine, and intravenous alcohol with amino acids, glucose and water, music and sweet nothings, and still a little individual hypnotism or auto suggestion in the form of Hindu Yogi.

We have had some interesting and useful experiences with intravenous alcohol and procaine in the control of labor pain. In the former instance we have used a 7.5 per cent alcohol solution in 5 per cent glucose. The infusion is started when labor is definitely established administering the solution at a rate of 60 drops per minute. This combination of alcohol and glucose is supplied in 1000-c.c. bottles, and is usually sufficient to augment other analgesics during the first stage of labor. The incidence of inebriation is very low provided the rate of administration is not too rapid (80-100 drops per minute). The addition of 0.2 per cent procaine hydrochloride will enhance the action of intravenous alcohol and is worthy of trial in certain cases. It is our opinion that there is little, if any, evidence

of fetal respiratory depression incident to or following the administration of intravenous alcohol. The after pains of labor respond well to intravenous alcohol and additional sedation is required infrequently.

The advisability of using curare at the end of the first stage of labor deserves consideration because this agent or similar compounds, synthetic or otherwise, do provide good perineal muscular relaxation and materially assist the patient and obstetrician when operative delivery is performed. Curare is being combined with sodium pentothal and cyclopropane. Whether or not curare passes the placenta barrier is a debatable point; nevertheless, the important consideration of adequate respiratory minute volume for the mother to prevent hypoxemia still remains.

We should remember, furthermore, that it takes ten minutes for curare to reach its maximum relaxant action when given intravenously. Too frequently we anticipate the curare action in a matter of a few minutes. True it is that some effect on respiration or muscle tonus can be detected, but the maximum action requires more time. The significance of this observation is that patients may deliver and the maximum action of curare or a similar compound is forthcoming. Then in the absence of painful stimuli there is seen frequently prolonged periods of apnea. Considerable care should be exercised therefore when using curare, watching respiration very closely. Occasionally, artificial pulmonary ventilation may be required with the aid of an intratracheal tube in order to provide a patent airway. Equipment for this procedure is mandatory if curare is used in any surgical procedure.

Do not rely upon the so-called antagonists to curare such as prostigmin. The clinical action of these antagonists or analeptics does not follow the sequence seen in the experimental animal. Curare has been suggested as an adjuvant to certain anesthetic agents in caesarean section operations. I fail to see the advantage or assistance from this procedure. In the main, skeletal muscle relaxation is not an important consideration in caesarean sections.

In the final analysis of the use, rationale and safety of analgesics and anesthetics, particularly those which are administered parenterally and by inhalation, depends on the fundamental principles of absorption, distribution and elimination from the body. For example, when a gas anesthetic or volatile anesthetic is administered the arterial content of the agent rises rapidly and not until an equilibrium of the agent with body tissue (lipoids) is reached, will venous blood show a similar concentration of the agent. It follows that in the beginning of the administration of an anesthetic even minimal amounts of the agent will reach the pla-

centa and fetus long before anesthesia is produced or established for the mother. This point is strikingly important when dealing with very obese women. It will require much more anesthetic to produce maternal anesthesia because of the obesity, and by the same token the fetus will be subjected to more and more anesthetic agent. We should consider low spinal or caudal anesthesia in obese women for obstetric anesthesia.

CONCLUSIONS

If I may quote from an anonymous editorial,⁸ "The obtundation of pain and discomfort incidental to parturition must necessarily occupy a secondary role in most obstetrical deliveries. It does not follow, however, that the pains during labor and delivery usually do not belong in the same category as pain associated with disease or that caused by surgical operation. Labor is not a disease, and expulsion of the fetus is not always a surgical operation. They usually constitute a physiologic process.

The medical profession and its scientific allies have not ignored the pangs of the parturient. In fact efforts have been so generous at times that pain relief seems to be exalted from its secondary role in obstetrics to a place equaling the more essential functions of the accouchement.

During all the anesthesia years every new drug or method introduced to facilitate surgery or allay pain has found its way into obstetric practice. The use of ether and chloroform during childbirth had a formidable place in early controversies surrounding the acceptance of anesthesia but the drugs have played an important role in obstetrics since. The lay press and non-medical benefactors formulated and expressed opinions on the merits of the early pain-relieving procedures. They have followed through with similar journalistic efforts with the advent of every new departure. Not infrequently obstetricians have resented the publicity and particularly the inaccuracies published for public edification. Their remonstrances have led the modern accredited press to more accurate reporting based upon statements that may claim authority. However, enthusiasm may often obscure the acumen of the physician as well as the journalist."

It should be our aim to make pain of the parturient as easy as possible, constantly keeping in mind the safety of the newborn and the mother.

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VERRUCAE (WARTS)

(C. W. Lane, St. Louis, in *Jl. A. M. A.*, Dec. 16th)

For small warts filiform and digitate electrodesiccation with or without local anesthesia is the best treatment. For larger, single or few, a 1% solution of procaine hydrochloride is injected intradermally, the surface of the wart searched with the actual cautery. The seared covering is then removed with a curet, revealing a red, soft, gelatinous base, which is destroyed down to firm tissue with the same cautery.

Warts in the beard are prone to recur. They, also, are removed by electrodesiccation or cautery, but after healing a 1 or 2% mercurial soap is used to cleanse the face, and aureomycin ointment is applied after shaving and before retiring. This has decreased recurrences and has produced cures in recalcitrant cases.

Warts around and beneath the nail: trim the nail to completely expose the wart and make a superficial application of monochloroacetic acid followed immediately by a 40% salicylic acid plaster. This is kept in place for one week. When the plaster is removed the necrotic tissue is trimmed away with scissors and an antiseptic ointment applied. Warn that pain may become severe and that, if so, the plaster should be loosened or removed and compresses of boric acid solution applied. A single treatment will cure, but two or three may be necessary.

In younger children with multiple warts, mercurous iodide is prescribed, with a topical application of 20% salicylic acid, 10% resorcinol and 1% mercury bichloride in 95% alcohol—twice daily into each wart with a point of a toothpick. The treatment is often augmented by weekly IM injections of a 1% aqueous solution of mercury bichloride. If such a regimen is unsuccessful, an attempt is made to remove the warts by electrodesiccation, but if multiple injections of procaine or many cauterizations are required, it is recommended that the patient be hospitalized and given a general anesthetic. All warts can then be removed painlessly.

Young persons would seem to be ideal subjects for psychogenic therapy, but in my experience it has almost always failed.

EPISACROLIUM LIPOMA AS A CAUSE OF LOW-BACK PAIN

(K. H. Katz & M. S. Berk, Boston, in *New Eng. Jl. of Med.*, Nov. 30)

Painful tender lobules of fat occur commonly in the sacroiliac regions, and recently have come in for increasing recognition as a cause of low-back pain. Obesity is common in the majority of patients suffering from this condition. It is probable that fatty tissue herniates through an opening in the fascial plane, resulting in torsion and inflammatory changes, producing local tenderness of the nodule. Occasionally, inflammation may be present without herniation, but nodularity and tenderness are still apparent on examination. In other cases pain is a prominent symptom without the observation of herniation or inflammation on surgical removal or pathological section of the specimen. Excision of the fatty tissue in this area has consistently resulted in prompt improvement of symptoms.

Observations on Contraceptive Methods

M. PIERCE RUCKER, M.D., Richmond, Virginia

FOR A NUMBER of years I have been in the habit of giving contraceptive advice with the following types of examination: (1) premarital, (2) routine physical examinations in older women who have a disturbing fear of pregnancy, and (3) postpartum. To the expectant bride I am careful to explain that a considerable number of marriages are sterile and that if she puts off starting her family unduly long she may find that she is unfertile when it is too late to correct the sterility. To the second group, which I may call my card party group, I am careful to explain that there is no contraceptive that is 100 per cent effective. The postpartum patient is given advice whenever there is a medical reason for it or when the patient asks for it.

I have often wondered how effective my advice has been and even if my practice, as outlined above, has been wise. In some cases it has been of help, I am sure, and even in the cases in which it appears to have failed the effort apparently has been a comfort to the patient.

As an example of a good result I cite the following case: In 1940, a lady wrote from Venezuela giving me the following obstetric history: Miscarriage at three months, May, 1934; miscarriage at three months, November, 1934; stillborn full-term baby weighing 8½ pounds, February, 1936. The baby was "strangled by the cord at birth;" pregnant now, due in May, 1940. Can you see me and when? When I examined this patient, I found a cystocele, a rectocele and an old perineal laceration. I delivered her in due time and at her postpartum visit I fitted her with a No. 75 diaphragm. She discontinued its use in August, 1942, and I delivered her of a girl, May 5th, 1943. I again fitted her with a diaphragm. She has since returned to the United States to live and I hear from her occasionally. She has had two more children at times and in places where good obstetrical care is readily available. If all cases worked out as well as this one there would be no question as to the value of contraceptives. Some, however, are unable to space their pregnancies so successfully.

Occasionally, one finds queer reactions as the following case illustrates. I fitted this patient with a diaphragm in 1935. On February 8th, 1936, she failed to use the diaphragm. It was on the tenth day of her menstrual cycle, and she was sure that she had become pregnant. She did not menstruate

at the expected time. Examinations, including a Friedman test, did not support her suspicions. I did a curettage partly to convince the patient, but mainly to get a report on the endometrium. She was only partly convinced and continued to have irregular menstruation until finally she became pregnant in 1942. After her delivery, March 27th, 1943, I fitted her again with a diaphragm. So far as I know she has had no further trouble. In this connection, the visiting nurses tell me that on the district, faith in the diaphragm is so great that husbands consider subsequent pregnancies of their wives as *prima facie* evidence of extramarital coitus.

With the view of learning just what my experience with contraceptive advice has been, I determined to review an unselected sample of case histories. I chose 1944 as the year to study as it would give ample time for untoward results to develop.¹ These dossiers contain not only subsequent histories of the patients but also previous histories, so that there is a certain time-spread—although most of the contraceptive advice falls in 1944, no case later than 1948 is included in the series. There were 502 patients and 652 separate instances of contraceptive advice. In the great majority of instances, the advice was given at the postpartum examination. No attempt was made at a comprehensive follow-up so that the results have no statistical value. Many patients were lost track of completely. Some who have moved away have written from time to time and some have remained patients. Information on actual contraceptive practice is not easily obtained. Patients do not readily discuss such matters unless they have some gynecological complaint upon which such information might have some bearing. Furthermore, fertility and infertility are influenced by so many factors of unknown nature that it is difficult to determine cause and effect. For example, I had a patient who had her first child seven years after marriage and her second child seven years later. She used no contraceptives of any kind and there was no obvious change in her mode of living. She had not even changed her residence during that time.

The results as to subsequent pregnancies are shown in the table. Eighty-three of these pregnancies are known to have been planned. There may have been others, but I have no statement to that

1. Since this was written one of my patients whom I saw in 1944 has become pregnant. I saw her for the first time November 29th, and was able to hear the fetal heart sounds.

*Read before the Manchester Medical Society, December 5th, 1950.

effect. There have been failures, of course. One patient became pregnant although she used the diaphragm I had fitted her with and in addition, her husband had used a condom at each coitus.

The patients' criticisms of the method, although they have been infrequent, are interesting. The commonest complaint was that the diaphragm was uncomfortable and therefore was not used regularly. This occurred seven times. In five instances, the husband did not like the diaphragm. One husband stopped buying the contraceptive jelly and the wife promptly became pregnant. One patient complained of having mechanical trouble with inserting the contraption. Three had a vaginitis and discontinued its use for that reason. It does not appear that the diaphragm was an etiological factor. One complained that the procedure was too artificial. One failure was attributed to the fact that the baby had cut a hole in the diaphragm. One patient lacked faith in the diaphragm and changed to sheaths. One patient used her diaphragm only just after her menstrual period under the impression that that was the fertile period. Eight patients discovered that they were sterile when they discontinued their contraceptive practices. Some of these had closed oviducts and some required thyroid medication before they became pregnant.

SUMMARY

The case histories of 502 patients to whom contraceptive advice was given 652 times have been reviewed with the idea of learning the patient's point of view. Two hundred and eighty-one patients were lost track of. There were 271 known subsequent pregnancies. Eighty-four of these occurred within three months after the patient stopped using contraceptives. There may have been more planned pregnancies, but I do not have definite information on the subject. In eight instances the patient found that she was sterile when she stopped using contraceptives. A few of the "failures" were evidently due to my not explaining the technic fully enough. Most of the failures were admittedly due to carelessness on the part of the patients. It is noteworthy that the failures were accepted in good grace.

TABLE SHOWING SUBSEQUENT PREGNANCIES

	No. of Cases
Total	652
Diaphragm, no known subsequent pregnancy	349
Diaphragm, pregnant in one year	
planned	12
not stated	57
Diaphragm, pregnant in two years	
planned	28
not stated	48
Diaphragm, pregnant in three years	
planned	14
not stated	29
	43

Diaphragm, pregnant in four years			
planned	14		
not stated	14		28
Diaphragm, pregnant in five years			
planned	10		
not stated	9		19
Diaphragm, pregnant in six years			
planned	2		
not stated	5		7
Diaphragm, pregnant in seven years			
planned	1		
not stated	2		3
Diaphragm, pregnant in eight years			
planned	2		2
Pregnant when fitted with diaphragm.....			1
Contraceptive jelly alone (failures 6).....			13
Condoms(failures 11).....			22
Rhythm(failures 5).....			16
Others			4

NICOTINIC ACID IN THE TREATMENT OF CERTAIN DEPRESSED STATES

(David Sherrill, in *Jl. Bowman Gray School of Med.*, Dec.)

The uniformly good results reported in 15 cases of mental depression and 19 similar cases and 29 cases of atypical psychoses, and in four cases reported here, in the author's opinion, indicate that nicotinic acid therapy is strongly advisable in *all cases* of mental depression or clouding of consciousness.

The oral schedule was as follows: first two days, three 50-mg. tablets at 15 min. intervals a.c. If no untoward reaction, on the third and fourth days, four 50 mg. tablets on 15 min. schedule, two tablets first dose. On the fifth and sixth days, five 50 mg. tablets, two at first and second doses. On the seventh and eighth days, six tablets, two tablets being given at 15-minute intervals. By the eighth day the patient was taking 900 mg. a day.

A 21-year-old woman whose complaint was melancholia, periodic agitation, anorexia, insomnia and headache was given insulin shockotherapy June 24th, treatment continued until July 12th with regular insulin, 80-85 units each morning. Only slight improvement was noted. The insulin was discontinued and nicotinic acid therapy instituted on July 13th. By the third day she felt very much better, and all who saw her commented on her improvement. Dosage was carried to 900 mg. nicotinic acid daily by July 19th. Patient was discharged on this dosage on July 22nd with instructions to continue at this level for two weeks and then to reduce the dosage.

The home situation was improved. This patient's improvement continued, and the patient was free of all depressive symptoms when seen August 30th.

MEDICAL TREATMENT OF EPILEPSY TODAY (J. S. Garvin, Chicago, in *Ill. Med. Jl.*, Dec.)

Five hundred cases of epilepsy are reviewed. Grand mal attacks were found in 33.8%; psychomotor attacks in 11.4%; Jacksonian seizures in 7.8%; and petit mal attacks in 2.4%. In 42.6% there was more than one type of seizure. Two per cent were atypical. Forty-seven per cent of patients with grand mal seizures were freed of attacks with suitable medication, only 10% of those with psychomotor seizures could be completely freed of attacks.

Best results in control of epileptic seizures may be obtained with individualized dosage and appropriate combinations of anti-convulsant drugs.

One of the most effective combinations is dilantin and phenobarbital. It is least effective in the treatment of patients with grand mal and petit mal, and may cause an increase in the petit mal attacks. Grand mal seizures not so controlled may yield to the 3-drug combination, dilantin and mesantoin and phenobarbital.

The Differential Diagnosis and Treatment of Unilateral Neck, Shoulder and Arm Pain

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NOT infrequently, the physician is confronted with a patient who complains of severe disabling unilateral arm, forearm and even hand and finger pain, associated with neck and shoulder discomfort as well.

The differential diagnostic study of such a patient could logically be carried out with the following six lesions or groups of lesions in mind:

1. *Scalene Compression Syndrome and Cervical Rib*.—Either of these two lesions produces essentially the same symptom complex: unilateral arm pain, beginning, as a rule, supra-clavicularly and extending down the arm, often to the ulnar side of the hand, occasionally to the median (thumb and forefinger) side. Characteristically, moderate pressure over the anterior scalene muscle above the clavicle by the examiner's thumb aggravates the pain down the arm, which may extend also upward to the scapular region and the precordial area thus simulating a cardiac lesion on the left side. Naffziger and Grant¹ state that the pain from an anterior scalene muscle compression may even involve the face and scalp on the affected side. To relieve the pain, the patient tilts his head toward the painful arm. Trophic changes in the nails and skin of the hand may be present due to compression of the subclavian artery by the tendon of the muscle and the pulse may be obliterated on the painful side only. When the tense scalene muscle is severed (usually under local—1 per cent novocaine—anesthesia) the muscle retracts and relief from symptoms (neurologic and vascular) is immediate and lasting. There may be atrophy of the small hand muscles preoperatively, and sensory loss to pin-prick examination over the ulnar or median side of the hand, in addition to the subjective sensation of pain. X-ray examination of the thoracic inlet and shoulder on the painful side will reveal a cervical rib, if present. In our experience, it is wise to remove the cervical rib in addition to dividing the scalene muscle, as suggested and carried out by Loyal Davis,² and not to divide merely the muscle in such cases, for fear of not completely relieving the patient of his complaints. Occasionally a symptomless cervical rib is present in an individual, or bilateral ribs are present with pain only on one side (Wechsler).³

2. *Cervical Protruded Disk*—like its counterpart, lumbar disk protrusion and sciatica—is due

to a postero-lateral extension of a herniated disk, with unilateral compression of one or more nerve roots. In our cases the fifth, sixth or seventh cervical interspaces have been involved and the relief of pain postoperatively is often more dramatic and complete than in the lumbar disk cases. The symptom-complex, so far as its peripheral manifestations are concerned, is very similar to the cervical rib—anterior scalene compression syndrome; but, whereas in the patient with a cervical rib or scalene syndrome the shoulder pain is usually directly supraclavicular, in cervical disk cases it is in the midline posteriorly, or paravertebrally in the lower cervical region on the painful side. We have learned to look for a triad of symptoms and signs in these cases: (1) Definite extension of the pain from the neck posteriorly to one or more fingers of the hand with particular emphasis on unequivocal sensory loss or paresthesia to pin-prick examination in the involved fingers. (2) Reproduction of the pain, preferably without "prompting" by the examiner, to the *involved hand and fingers* by moderately severe pressure over the suspected cervical interspace by the examiner's thumb. (3) Evidence of narrowing of the suspected interspace as seen in the lateral x-ray film of the cervical spine. In any case in which these three findings are made, protrusion of a disk is practically certain and should be easily identifiable and removed at operation through a hemilaminectomy opening. Pantopaque study has not proved very helpful in our clinic for the identification of these lesions. The reliability of the triad of symptoms described is especially gratifying, since elicitation and demonstration can be so readily done in any physician's office. Not infrequently a patient with a protruded cervical disk develops secondary spasm and pain of the scalene muscle which disappears after the disk has been removed; the surgeon must be careful not to divide the scalene muscle as a *primary* procedure in such cases.

3. *Cervical Arthritis, Spinal Metastases, Old (often unsuspected) Cervical Spine Trauma*.—X-ray examination, of course, is essential for the diagnosis of these lesions. Painful rigidity of the neck with no traumatic history in a middle-aged or elderly patient is usually due to the first-named condition. This will cause posterior pain in the neck, shoulder and even the arm but usually *bilateral*.

erally and rarely into the forearm or individual fingers of the hand. Skull traction with the Crutchfield tongs, just as in an acute cervical fracture-dislocation, is often of real benefit in patients with severe cervical arthritis and peripheral shoulder and arm pain. It definitely separates the vertebral interspaces and thereby relieves pressure on nerve roots as demonstrated by a lateral x-ray film of the cervical spine made while traction is being maintained.

4. Cervical Cord Tumor. especially if unilateral and extramedullary and involving the posterior roots of the lower cervical region, can simulate very closely a scalene syndrome or a protruded cervical disk, so far, at least, as the peripheral manifestations are concerned. Fortunately this condition (cervical cord neoplasm) is much rarer than a scalene syndrome, cervical rib or cervical protruded disk. Spinal puncture and the Queckenstedt test should aid in the diagnosis of the lesion. If the spinal fluid protein is elevated (above 40-50 mgm. per cent) and a partial or complete subarachnoid block is present on the Queckenstedt test, then a pantothenic study is required. If a mass lesion is thereby demonstrated, a regular cervical laminectomy with opening of the dura is indicated. In cervical cord tumor cases, the pain in the neck, shoulder and arm is characteristically *worse at night* after the patient has retired. Bilateral jugular compression usually induces sudden severe radiating pain in the dermatomes of the involved posterior nerve roots, either unilaterally or bilaterally although pain is not a prominent symptom in intramedullary cord tumors. A Horner's syndrome may also be present.

5. Subacromial Bursitis.—In these cases, there is often exquisite pain over the deltoid muscle, the locale of the subdeltoid bursa. X-ray examination may disclose calcification in the bursa itself but this is not necessarily present. Novocaine injection of the bursa, diathermy applications and excision of the inflamed sac by the orthopedist in severe intractable cases afford relief, if not complete cure, in most patients. In its acute phase, this lesion is extremely painful, but because of its lateral upper-arm location with not very great radiation downward into the lower arm, forearm or hand, it is not often confused with lesions discussed under the first and second and other headings of this report. If the bursitis is severe, limitation of movement of the shoulder and pain are most noticeable when the shoulder is abducted or rotated internally (Slocumb).⁴

6. Pancoast Tumor.—This almost invariably fatal lesion is characterized by extremely severe, intractable pain in the shoulder supraclavicularly and often extending into the upper chest, posteriorly over the scapula and (if the greater part of

the brachial plexus is involved by the growth) into the arm, forearm and hand. Frequently a Horner's syndrome is seen, almost pathognomonic of a Pancoast tumor, particularly when associated with the typical constancy, severity and extensiveness of the pain. X-ray films of the thoracic inlet and upper lung field on the affected side should reveal the lesion. The writers know of no single verified case of Pancoast tumor of the lung (carcinoma) that proved to be resectable with a resultant five-year (or more) cure after operation. The pain may be relieved effectively by only three surgical procedures: (1) Posterior rhizotomy of the brachial plexus through an extensive lower cervical-upper thoracic laminectomy in patients who still are in good general condition. (2) Contralateral medullary tractectomy via a posterior fossa-upper cervical approach, and (3) Unilateral or (preferably) bilateral anterior frontal lobotomy.

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PARENTERAL MULTIVITAMIN THERAPY IN THE TREATMENT OF ACNE

(Paul R. Kline, M.D., New York, in *Arch. Derm. & Syph.*, Nov., 1950)

Forty patients with acne were treated over a period of eight months with intramuscular injections of a parenteral multivitamin preparation* in aqueous solution, 25 of these (18 F. and 7 M.) for a sufficient period to be included in this report; they ranged in age from 15 to 35 years, the duration of the acne 18 months to two years. These patients had received previous treatment without improvement. Routine treatment with acne lotions was continued. In two cases x-ray therapy was given because of the severity of the disease. Most of the patients were given 2 c.c. of the multivitamin solution intramuscularly at weekly intervals. When satisfactory improvement was noted, this interval was increased.

Twenty-four patients showed satisfactory improvement, the rate in general much more rapid than before using multivitamin injections. It was in the cystic acnes that the most rapid response was noted—regression after three to six injections. This result was in direct contrast to the poor results in cystic acne reported by Combes and associates when large doses of vitamin A were given orally. Several of these patients showing an excellent response to the multivitamin injections had had previous prolonged intensive therapy with local applications, vaccines, hormones and roentgen rays given by competent dermatologists.

*Vi general (R), injectable, each 2 c.c. of which contains 10,000 units of vitamin A, 1/2 c.c. of vitamin D, 10 mg. of thiamine hydrochloride, 1 mg. of riboflavin, 3 mg. of pyridoxine hydrochloride, 20 mg. of niacinamide, 50 mg. of ascorbic acid and 2 mg. of alpha tocopherol in aqueous solution containing 4.5 per cent weight per volume of sorbitan monolaurate.

DEPARTMENTS

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

VARIOUS PEDIATRIC ENDOCRINE PROBLEMS

MOST CASES OF OBESITY are due mainly to the habit of overeating. Pituitary extracts are ineffective in controlling excess appetite or weight. Response to thyroid extract is not proof of a primary or even secondary thyroid or thyrotropic pituitary lack; thyroid here has an effect of burning excess tissue. The best therapy for obesity is development of the will to cut down on excess food intake. Drugs of the dexamethasone class are recommended.

An article which starts out so sensibly¹ attracts highly favorable attention here. Read on and obtain more information of daily usefulness.

Mongolism is not due to endocrine disturbance. Individuals with mongolism develop thyroid lack in the same frequency as other children. Thyroid extract may be given to convince parents that this is not hypothyroidism.

Hypopituitarism never causes obesity; it may cause the syndromes of Fröhlich, Levi-Lorain and Neuro-Cushing. The true Fröhlich syndrome is not common; the term should not be used for every fat adolescent with slight retardation of genital development. The Neuro-Cushing syndrome is the most common hypopituitarism encountered, if it is that at all. Growth hormone production and utilization are usually better than normal, epiphyseal age accelerated. Two-thirds normalize after puberty. Weight control is the main therapy. Gonadotropins may be indicated just before, during, or just after the average age of puberty.

The syndrome of Levi-Lorain, not common, is dwarfism and genital infantilism, but no obesity. Lack of secondary sex characteristics indicates use of gonadotropins. Testosterone or estrogen may be helpful along with gonadotropins.

Hypothyroidism is not very common. It is very important that it be recognized early in order that the treated child will develop mentally to the maximum possible. Cretinism is rare in this country. Examining the child's photographs from birth to two years often reveals such an early onset.

Acquired hypothyroidism is more common. The BMR is not reliable unless it is repeatedly and markedly low. Blood cholesterol must be definitely high to be significant.

Thyroid extract should be dispensed in a dark bottle and not be allowed to become old.

¹ W. A. Reilly, Little Rock, Ark., in *New Orleans Med. & Surg. Jl.*, Dec.

Adrenal cortical insufficiency: At two weeks vomiting, loose frequent bowel motions, great dehydration, low b. p., all evidence of lack of salt and water hormone. Some have been operated upon as instances of pyloric stenosis, often death ensued. Large fetal adrenals were found with overgrowth of the androgenic zone. Blood is low in Na Cl and CO₂, high in K and NPN; the urine low in Na and high in Cl and 17-ketosteroids. This syndrome has to be kept in mind to be diagnosed. It accounts for a number of unexplained deaths. It is controlled sometimes by saline infusions or Na Cl orally, more often by saline plus desoxycorticosterone acetate injections.

Deficient ovarian development is not common. Differentiation from the Levi-Lorain syndrome is difficult. Treatment with estrogens orally is helpful though not curative.

INFANTILE ECZEMA

OF 304 consecutive cases of eczema in patients under 12 years of age observed by Kennedy¹ during a period of one year, 21 per cent were allergic in origin; 18 per cent bacterial infections of the skin; 13 per cent hemangioma; 12 per cent fungus infections; 10 per cent *verrucae vulgaris*; 8 per cent parasitic infections; and the rest due to a variety of causes.

There were six types of allergic dermatosis; of these, atopic dermatosis, infantile eczema, was by far the most frequent. Contact dermatitis, or dermatitis venenata, was second in order of frequency. Only rarely seen were lichen urticatus, urticaria pigmentosa, drug allergy, or urticaria itself.

Here is discussed only the eczema which occurs usually before six months, nearly always before two years. Other members of this group are asthma, hay fever, and hives. The initial site is the cheeks.

Members of the family manifest allergy in various ways.

Frequently contact irritation as by rubber or plastic pants, and by baby oil containing hydroquinone are important factors. The cutaneous wheal test is of no significance in these cases.

It is of great importance that these children be given breast milk, since the incidence of infantile eczema is seven times greater with any other milk. In fact infantile eczema has already developed give canned goat's milk. All other foods are discontinued: vitamin concentrate substituted. Later pureed fruits and from time to time meats and vegetables.

Bathing care consists of oatmeal-soda baths once a day, using no soap.

Substitute mineral oil for baby oils and in clean-

¹ L. C. B. Kennedy, New Orleans, in *N. O. Med. & Surg. Jl.*, Dec.

ing after a stool; diapers rinsed and soaked in boric acid solution before washing. Rubber or plastic pants discarded.

For secondary infections aureomycin or bacitracin ointment is useful; in the dry stage crude coal tar, 1 per cent, in Lassar's paste.

Antihistaminic drugs give symptomatic relief. No wool in contact with the skin.

Restraint is harmful to child and parents and should not be resorted to. White cotton socks drawn over the hands and pinned to the gown afford sufficient protection.

Immunizations should be given in summer, when the incidence of eczema is low. Special anti-toxins are available for patients with high sensitivities.

The parents should be warned that recurrences are to be expected, especially with every drop in temperature and other types of allergy.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

TREATMENT AND PREVENTION OF CARDIOVASCULAR EMERGENCIES

WE MUST RECUR often to the presentation of the best known methods of preventing and treating these emergencies. From New Orleans¹ comes a straightforward statement of the case.

In the treatment of acute myocardial infarction absolute rest is the first consideration. Until proper transportation is available, the patient should remain where the attack occurred. He should be bodily transported to the car, ambulance, or to his own bed.

Control of pain is second in importance. Morphine is the choice—if the pain is severe, or dyspnea, pulmonary edema or shock exists, then IV, in $\frac{1}{4}$ grain doses, in 5 to 10 c.c. sterile water. If respiratory suppression develops coramine or metrazol should be administered.

Follow-up requires rest, both physical and mental, even in the absence of pain. There is an increased tendency to allow the patient to feed himself, take bed exercise, and to use the commode at the bedside. Phenobarbital $\frac{1}{2}$ grain, or bromides in 15-grain doses, two or three times daily, may suffice for needed sedation. Paraldehyde in a retention enema is also effective.

When morphine fails to give relief of the anginal pain, O may serve better. Its use engenders fear in the minds of some patients, therefore discontinue as soon as the emergency will allow.

Aminophylline IV, two or three times daily, may help relieve anginal pain. Theobromide, 7.5 grain

¹ H. H. Cutler & L. D. Kelly, Monroe, in *New Orleans Med. and Surg. Jl.*, Sept., 1950.

tablets t.i.d. orally, is an effective adjunct. Atropine lessens the reflex vasoconstriction of the unoccluded coronary vessels. An adequate supply of liquids is requisite. Dietary management consists mainly of a low-sodium intake and control of obesity or diabetes.

Heparin we use only occasionally, due primarily to the expense and its short effective anticoagulant time. If dicumarol is administered, the prothrombin time must be tested daily. Because of the failure, difficulties, and expense of anticoagulant therapy, resort is being made more and more to venous ligation.

Apprehension, restlessness, depressed feeling in the chest, especially in a male over 40, should make one think of pulmonary infarction. Shock, pain and hemoptysis are late manifestations.

Early *symptoms* of heart failure are dyspnea, mild or severe, insomnia, weakness, nocturnal cough and nocturia. *Signs* are: distant heart tones, gallop rhythm over the apex, rales in the lung bases, distended neck veins and an enlarged, tender liver. An easy test to help discern heart failure is the decholin circulation time—above 20 seconds is evidence of heart failure. Pulsus alternans prognosticates imminent left ventricular failure. If heart failure is strongly suspected, a regimen of low-sodium diet, mercurial diuresis, and slow digitalization with leef is the treatment. Body weight records are kept during this period of observation. Increase in body weight and/or decrease in urinary output indicates myocardial insufficiency.

In an attempt to prevent acute arrhythmia routinely administer 5 grains quinidine sulfate three or four times a day to patients with coronary coronary vascular disease. When frequent extra-systoles or a simple persistent tachycardia exists 5 to 10 grains q 1 to 2 h. until the irregularity is controlled or abolished.

The mechanism of paroxysmal tachycardia is the same as fibrillation and flutter, so treatment is the same. When flutter or fibrillation exists think of thyroid disease, mitral stenosis, or infection. If these are excluded a few of the many therapeutic agents available are: Digitalis which is most effective in auricular fibrillation and flutter, and paroxysmal auricular tachycardia. If oral doses not retained, give IV lantoside-C or cedilanid, 0.8 mg. (4.0 c.c.), a second dose in 30 to 60 min. (usually sufficient); succeeding doses depend on effects.

Quinidine sulfate is most valuable in ventricular paroxysmal tachycardia, 10 gr. q. 1 h. until control of arrhythmia then 3 gr., q. 1 h.; in refractory cases increase this dose. No experience with IV quinidine.

Mecholyl bromide is effective in controlling auricular paroxysmal tachycardia. It should not be used in allergic or asthmatic cases or coronary

arterial disease: dose 10 to 30 mg. hypo.; a larger dose in 15 to 30 min. Atropine should be available when mecholyl is administered. Carotid sinus pressure with mecholyl may cause an arrest of this arrhythmia when either alone failed to do so.

And it is pertinent to add some words of wisdom and warning² against an excess of that excellent remedy, rest.

In Medicine the ritualistic following of unproved traditional procedures is a common fault. For years the physician rigidly restricted the fluid intake of edematous persons, with no voice but the patient's raised in protest. Surgical and obstetric patients were kept at prolonged postoperative or postpartum bed rest until critical thought, and perhaps the shortage of beds, stimulated the re-examination of the evidence. There is no evidence that bed rest, or even markedly restricted activity over a prolonged period, advantageously affects either the course or the later sequelae of myocardial infarction. It is with alarming frequency that one sees in the clinic patients who have had myocardial infarction, and who have been pitifully inactive because of symptoms brought on by fear rather than heart disease.

The two main aims in the treatment of myocardial infarction are, first, the immediate saving of the patient's life, and, second, to prepare him for future living. The latter has often been neglected in the earnest desire to accomplish the first. We believe that the greatest fault has probably been not only in the length of bed rest but also in the rigid routine that is practiced. In most cases this includes four weeks of absolute rest, or nearly absolute, bed rest followed by varying periods of inactivity, so that rarely is the patient without residual symptoms returned to normal activity in less than three months. It is absurd for patients who have not even been allowed to feed themselves to perform the dangerous experiment upon the bed pan daily. Emotions increase cardiac output—perhaps more frequently in these patients forced into undesired recumbency than would occur with gradually increased, intelligently guided activity.

Routine prolonged bed rest in myocardial infarction is harmful to the mental and physical well-being of the patients. Two weeks in bed, with reasonable, carefully explained restrictions, and possibly bedside toilet privileges, will be all that is necessary in the majority of cases. Even during this period some gradually increasing activity might be begun. After this, in the absence of contradictory symptoms and signs, patients should be gradually allowed to walk until at the end of four weeks from the onset they have regained some of their previous exercise tolerance and are prepared

² C. W. Irvin, Jr., and A. M. Burgess, Jr., Providence, R. I., in *New England Jl. of Med.*, Sept. 28th.

to leave the hospital on light activity. By this method not only will the patient be able to return to gainful occupation sooner, but some of the social and mental disturbances of bed rest will be circumvented. Obviously, there will be a certain number of cases in which extensive infarction will require modification of this procedure.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

HOSPITALS ARE BIG BUSINESSES

THE AMERICAN COLLEGE OF SURGEONS recently made a survey of 4,021 hospitals in the United States and Canada and perhaps a few small countries. At \$500,000 per hospital, the total capital investment is over two billion dollars. It would be safe to figure that all people serving the hospitals in various capacities will average three hundred. This would mean something over one million persons spending either all or part of their time in the hospital business. In these 4,021 hospitals, it is fair to assume that one-half million people are being taken care of each day if we include the outpatient clinics.

Every big business must have a source of supply of dollars and manpower. The hospitals in this country have done so good a job of begging and borrowing that the capital outlay has reached an appalling figure. More recently, having fallen for the idea that one can get something for nothing, they have sought to tap the federal treasury for loans and grants. The state institutions have helped to create in the minds of the taxpayers a rather emotional state during the process of getting dollars.

Many large manufacturing and merchandising companies have provided facilities for uneducated, untrained, young, ambitious boys and girls to study what will in the end profit most for the company. The hospitals have not done this. They must do it in the future if they are to survive the modern stress and strain of conducting big business.

Some will hasten to say, what about the training schools for nurses, the internships and residencies? After all the time and money spent upon training the minds of these individuals, what have we got from a practical standpoint? First, we have a strong union which we have put in power and given the reins at the expense of the hospitals, telling us just what they will now do and what they will not do. Further, how they will do what they will agree to do, cannot be directed by the hospital authorities: each individual goes merrily along his or her own way, whether this way be practical and economical or expensive, unreasonable and unsatisfactory to the hospital administrators. I cite a

few instances to start the reader upon thinking of many others.

Recently, we had a well trained young specialist come to us from a residency with such ideas as \$2,000 worth of special implements for his specialty to be purchased immediately by the hospital, when he had no practice and probably would not use the operating room ten times the first six months. Another well trained young surgeon placed on the staff of our hospital immediately injects his personal peculiarities and expensive habits into the operating-room technique. He uses wire which is very expensive instead of catgut or dermal sutures. If he does not use wire then he wants a special type of silk that costs \$5.00 per spool. Now if this young doctor would be economical with these very expensive materials we could forgive him, but one piece of wire twelve inches long ties one bleeder. The two ends of five and seven-eighths inches are cut off with an expensive pair of tissue scissors and then thrown aside. Would-be nurses come into your hospital seeking knowledge and opportunity from you. Once they graduate they come into your hospital to dictate to you hours and routine on your hospital wards.

What is the sensible thing for a big business to do? First, let it determine that its policy will be fair to both employer and employee. Second, when persons are trained at the expense of the hospitals, it is only fair and just and reasonable that the hospitals should have *some say so* concerning the hours and conditions under which these individuals shall work for them after they graduate. No one hospital can accomplish this, but the various state and regional hospital associations, in co-operation with one another and with the American Hospital Association, can formulate fair rules and regulations for the services that they require to run their business. To make a long story short, it should be stated freely and frankly that the union of the hospital administrators should have just as much directing influence upon those who work for them as have those responsible for the successful operation of any other big business. This can be accomplished by co-operation, and I dare say a much better job could be done for both the employer and employee if some definite standard could be laid down so that "all who run may read." No one should then become disillusioned as to what will be required of him or her in the profession that he or she has chosen.

THE EVE ROCKING METHOD OF ARTIFICIAL RESPIRATION has been found the most satisfactory of the manual methods. It consists of 10 double tilts per minute, with a ven tilation of about 600 c.c. per tilt of 50°. This method makes use of gravity; the weight of the abdominal contents pushes and pulls the diaphragm up and down like a piston. It is independent of muscle tone; it aids circulation;

ribs and viscera are not injured, as sometimes happens in other methods. The rocking bed has been found valuable in patients with respiratory embarrassment due to poliomyelitis. It has many advantages to the patient, and makes easier nursing care and physical therapy treatments. —Esther M. Greisheimer, in *Jl. Amer. Med. Women's Assn.*, Nov., 1950.

SURGERY

W.M. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

VARICOSE VEINS

THE SUCCESSFUL TREATMENT of varicose veins depends upon preventing a reflux of blood from the deep to the superficial veins. High ligation of the saphenous vein, with or without injection of a sclerosing solution, has been found to be inadequate, likewise stripping of the long saphenous vein as it fails to eradicate connections between incompetent perforators and the superficial tributaries of the saphenous system. In a series of anatomical and surgical dissections, Dr. R. S. Sherman has made important contributions to our knowledge of the subject. In a previous article he described the perforators in the thigh. In a recent article* he presented the study of the perforators in the leg. Heretofore unrecognized, the leg perforators are more numerous and more important than those in the thigh. They are fairly constant in position. In the lowest third of the leg they communicate with the main saphenous trunk through accessory perforators. So as to prevent reflux through these it is necessary that they be ligated within the muscle. In order to assure a satisfactory result, the operation consists of a standard high ligation of the internal saphenous vein; the excision of the subfascial saphenous trunks; and the elimination of the incompetent perforators in the thigh and leg. In diagnosis much dependence is placed upon inspection and palpation. It is emphasized that a positive Trendelenburg does not indicate the absence of incompetent perforators.

The above described operation is radical and time-consuming. It is sound in principle. No doubt it is necessary in order to obtain a good result in severe cases. It has been our experience that high ligation with excision of the subfascial trunks of the internal and external saphenous, the larger tributaries, and varices of saphenous and other origin will be productive of good results in the less severe cases. There is little if any place for the use of the injection of sclerosing solutions in the treatment of varicose veins.

*Sherman, R. S.: *Annals of Surgery*, Vol. 130, No. 2, pp. 218-232, 1949.

CHANGES IN COLOR SUGGEST EASY DIAGNOSIS

W. G. Scott, St. Louis, in *Jl. Amer. Med. Soc.*, Oct. 1950

The patient must be impressed with the possible significance of: Change in bowel habits, even small amounts of blood or mucus in the stools; unexplained loss of weight

or strength.

The physician must: Obtain a careful history on each patient's bowel habits; order radiographic examination of the colon on only suspected or suspicious symptoms and clinical findings; perform a routine digital and proctoscopic examination in the study of new patients; not attribute rectal bleeding to hemorrhoids before making a proctoscopic and an x-ray examination and finding no cancer.

The radiologist must: Have proper equipment, achieve dark adaptation and provide proper radiographic protection for the patient and personnel; perform a digital examination before giving the barium enema; make fluoroscopic examination in the oblique position; take an adequate number of pictures to fully demonstrate all the loops of bowel; use air enema for further delineation of questionable filling defects; repeat the colon examination if the patient's symptoms persist after a negative examination.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

THE MOUTH IN DIABETES MELLITUS

A REPORT by a New York group¹ deals with the occurrence of oral changes in 149 patients who have had diabetes over a considerable period of time. An attempt was made to correlate the state of the oral tissues with the degree and type of diabetic control. Patients were selected at random from the clinic population. Their diabetic status was unknown to the examiner at the time of oral examination; 81 per cent of the group were between the ages of 41 and 70, 67 per cent of the group female.

The majority of tissue changes noted are often associated with nutritional and metabolic disorders. The most prominent change was hypertrophy of filiform papillae of the tongue, of which there were 105 instances of moderate, and 35 of severe, degree. Next in frequency of occurrence were gingival edema, fissuring of the tongue pocket formation about the teeth, recession of the gingivae, bleeding gingivae, and scaling and fissuring of the external lip surfaces. The incidence of pus- and polyp-formation were considerably less. The incidence of acute infections was very low; in the past one and a half years only one patient required emergency treatment, this for a pericoronitis about a lower third molar.

The problem of tooth loss in diabetics is acknowledged to be a vexing one, especially so since efficient mastication is necessary for optimum digestion and absorption of foods. Many reports imply that the incidence and rate of tooth loss in diabetics is greater than in non-diabetics. There is no doubt that when failure of tooth retaining structures occurs in certain diabetics, it does so with a precocity and rapidity of progress that are remarkable. This is especially true in some young individuals.

Resorative and even destructive phenomena often occur in alveolar bone, without signs thereof in overlying gingivae. It was noted that certain individuals had varying degrees of yellowish coloration of the soft tissues of the mouth. In the absence of other signs of jaundice it was thought that a carotenemia might be responsible.

A survey of the oral cavity in 149 treated diabetics is reported. Subjective symptoms and tissue changes found do not differ from those found in non-diabetics. The relative frequency of occurrence of certain changes in diabetics and non-diabetics was compared, using data derived from the literature. The incidence of acute inflammation and infection including pus and polyp formation was low.

In many instances the clinical appearance of the gingivae was found to be an especially accurate guide to the roentgenographic appearance of underlying alveolar bone. Preliminary skeletal roentgenographic studies in 10 selected cases who exhibited severe alveolar bone loss revealed usual osteoarthritic changes. No osteoporotic changes were noted.

No abnormalities in fasting Vitamin A and Carotene levels were found in a group of patients exhibiting yellowing coloration of the soft tissues of the mouth, hyperkeratinization, Fordyce's granules and leukoplakia.

The administration of insulin modified the oral pathology perhaps as favorably as it affects any other local lesion of the diabetic.

1. Emanuel Knishkowy, D.D.S., et al., in *Jl. Mt. Sinai Hosp.*, Sept.-Oct.

DICUMAROL THERAPY

Annella Brown et al., in *Jl. Amer. Med. Women's Assn.*, Dec.)

The present criteria for the use of dicumarol may be summarized: (1) As definitive in all forms of venous thromboembolic disease, especially pulmonary embolism, phlebothrombosis, migratory thrombophlebitis, postcoronary occlusion, during congestive heart failure, or during the multiple thrombotic episodes sometimes associated with carcinomatosis; (2) in the prophylaxis of thromboembolic complications in post-operative and post-traumatic cases, following acute coronary thrombosis, during congestive heart failure, and in all obese, debilitated, polythemic and anemic patients; (3) in the treatment of acute arterial embolism, dicumarol prevents extension of the original thrombus, thromboses of the collateral channels and may aid in recanalization of the occluded vessel; (4) in prevention of repeated arterial embolism in patients with mural thrombi and auricular fibrillation; (5) in prevention of thrombosis at the suture line in vascular surgery; (6) in the treatment of acute rheumatic fever in the exudative stage; (7) in multiple sclerosis for prevention of exacerbation.

BEWARE OF ANY INFECTION OF UPPER LIP OR NOSE

(B. J. Ficcardi, in *Med. Times*, Dec.)

The triangular area extending from the angles of the mouth to the bridge of the nose contains veins which directly communicate with the cavernous sinus making infections of this area especially dangerous by causing

thrombosis in the sinus. This is the reason that furuncles of the upper lip and nostrils not infrequently terminate fatally. The treatment of infections of this area is therefore ultraconservative: Complete rest, no speaking and liquid nourishment, hot fomentations and sulfonamides and penicillin as general treatment.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

FACIAL MANIFESTATIONS OF DISEASES

DIAGNOSING by the use of gadgets has lost to doctors much in ability to learn much of value through use of their five senses, aided only by reasoning.

The greater part of an article by a teacher in Georgetown University¹ more than a half-century ago is put before you for the good of your patients.

Doctors are prone to throw aside the simple and more natural aids and take upon themselves a perplexity of devices, which serve only to make more difficult an otherwise easy task.

The face is a mirror in which are reflected all degrees of ill-health from that which amounts only to temporary indisposition and depression to the gravest cachexiae. There you may find the precursor of convalescence, or the harbinger of decay. In peritonitis, croupous pneumonia and severe internal injuries, the expression of anxiety may be manifest, when patient and friends are speaking of improvement.

The pallid face and lips, the anxious look, the restless eye, tell, even before the finger is put upon the pulse, of the loss of blood. The pinched nose, the sunken eyes, ashy countenance, with perhaps beads of sweat upon it, speak of suffering or pronounced sepsis. The pale face of anemia, the puffy waxy countenance of Bright's disease, the bloated heavy look of myxedema are not less characteristic than the bronzed hue of Addison's disease, the prominence of the eyeballs of Grave's disease, or the yellow tint of jaundice.

The typical disfigurement of one suffering with nasopharyngeal adenoids is very marked. There is a seeming prominence and puffiness of the cheeks and nasal bones, which causes the eyes to look heavy and sunken. The constantly open mouth and a certain stupid expression are characteristic symptoms of postnasal growths.

Paleness may signify anaemia, syncope, leucocytopenia, dropsy, nausea, etc.; and different kinds of paleness, have different meanings, as that of acute pleurisy, cancer, etc. The size of the face is apparently augmented in apoplexy, acute mania, convulsions, especially epilepsy, in obstructive diseases of the heart, particularly those accompanied

with dropsy, in pneumonia, in the acute stages of periodic, continued or exanthematous fevers. The size of the face is diminished in the cold stage of periodic fevers, in exhaustive diarrhoea or dysentery, in phthisis and splenic leukaemia.

When exhaustion has become extreme and collapse is threatened, we have the facies Hippocratica: the nose sharp, the eyebrows knitted, eyes hollow and sunken, the ears cold, contracted, and their lobes shrivelled; the skin about the forehead hard, tense, dry, and the face pale or of a greenish livid, or leaden hue.

Full-blooded persons disposed to endarterial changes frequently as the result of gout, have, at a little distance, the ruddy appearance of blooming health. This condition, when associated with high tension in the arteries, is highly suggestive of chronic nephritis. In the aged, or in cirrhosis or obstruction of the hepatic circulation, a capillary congestion of the nose is often noticed.

Inspection is even more important in the case of children than in adults. The pale, pinched, weazened face of some babies, who have snuffles, ulcers at corner of mouth, and look prematurely aged, is characteristic of constitutional syphilis; likewise in the saddle nose, arising from removal of a part of the bony framework. In rickets, the head is usually large, square, forehead projecting, large non-bulging fontanelles. In hydrocephalus, the head becomes much enlarged, is rounded or globular; fontanelles large, tense and bulging, eyes prominent, bones of the face small, expression vacant. Pain in the head in children is indicated by contraction of the brows; pain in the chest by sharpness of the nostrils; and in the belly, by a drawing of the upper lip.

A healthy infant, when awake and well fed, is given to kicking or cooing and moving its arms about, and has a happy expression on its face; whereas if any cerebral trouble is present, it often has an anxious frown, its hands are placed to the side of its head or rubbed over the vertex. Constant screaming is nearly always due to hunger or earache, for abdominal colic is usually intermittent.

By a glance, we can ascertain whether our patient has changed for the better or worse in our absence. The pallor of anaemia and of carcinoma, the blueness of cyanosis, the puffiness of renal disease, the bloated face with tuberous nose of the alcoholic; the drooping, often trembling lid of the hysterical; the staring vacant look of the facial paralytic, with the smoothed out, glazed appearance of the affected side, all tell their tales to the careful observer.

What, asks Fothergill, is this subtle power to read facial indications that makes some practitioners excel so in prognosis? They can give no explanation beyond "you can see it in the face;" but

¹ James D. Morgan, M.D., Washington, in *The Virginia Medical Semi-Monthly*, Dec., 1-8-97.

what that "it" is they cannot tell. Nevertheless, they can both see it and read its interpretation. Experience leads the only way to this knowledge, and the older physician has gained this ability by long training to grasp much of the essential details of a case by a mere glance at the face of his patient.

CONTROL OF DIABETES GLYCOSURIA AN UNRELIABLE INDEX TO GLYCEMIA

(II, J. John, Cleveland, in *Ohio Med. J.*, Nov.)

Despite irrefutable evidence it remains an almost universal custom to adjust the dosage of insulin on the basis of glycosuria. This practice results from entirely faulty reasoning. If the renal threshold is low, there is heavy glycosuria most of the time, even when the blood sugar is low. If the threshold is high, no sugar will show in the urine even with a very high blood-sugar level. To give additional insulin in the former instance and to withhold it in the latter, on the basis of the urine examinations, is to fail to control the diabetic state adequately. Excessive insulin dosage does not always produce severe insulin reactions, but, even when it does not, it is a source of inconvenience, discomfort and needless expense to the patient.

Enormous doses of insulin have been prescribed to patients in a futile attempt to control glycosuria.

In the control of diabetes make blood sugar determination t.i.d., a.c. If the blood stream clears itself of excess sugar by the time of the next meal, then all is well whether or not sugar appears in the urine. If some excess of sugar remains in the blood stream just before the following meal, then additional insulin is indicated, again regardless of the urine tests. If the blood sugar is elevated in the morning, then the protamine zinc insulin needs to be increased. If the level is normal in the morning, but increased at noon, then the dose of regular insulin needs to be increased. The purpose of all diabetic treatment is to achieve as nearly as possible a physiologic level of blood sugar at all times during the day.

HISTORIC MEDICINE

INTERESTING BITS OF WARRENTON, N. C., HISTORY

(From *Recollections About Old Warrenton*)

THIS celebration of an important military and historical event which intimately concerned a citizen of Warrenton took place on August 8th, 1848. The event was the return from Mexico of Captain Braxton Bragg, U. S. A.—afterward General, C. S. A.—a native of Warrenton.

At a critical period of the battle of Buena Vista, when the Mexican Cavalry were threatening to override the small force of United States Infantry opposed them, Captain Bragg by a skillful disposition and use of his battery drove back the Mexicans and turned the tide of battle.

Captain Bragg, in his speech of appreciation of the honor being done him, said General Zachary Taylor on the battlefield of Buena Vista did not use the words ascribed to him by the reports: "A little more grape, Captain Bragg, a little more

grape"; but "Give 'em hell, Captain Bragg; give 'em hell!"

The negroes, with few exceptions, cast their votes for Sheriff Jones either because they feared him, or because he was kind hearted and lenient in his dealings with them. "Aunt" Dicey Spruill was a shouting member of the Colored Baptist Church. The sheriff had threatened to put her in jail if she continued to create so much noise in their meetings. On one occasion, when she became unusually uplifted by the preaching, throwing off her bonnet and shawl, and waving her hands above her head, "Aunt" Dicey began her shouting with "Hol' ma shockuh an' hol ma shawl

An' tell Bob Jones Ahm a-shoutin' in de cool."

The family of Dr. William Sutton, at that time the owner of the well known fisheries at Avoca, near Edenton, were people of consequence. Mrs. Sutton and Mrs. William Plummer were sisters. After the war Governor Elias Carr bought their place for his summer home and came here with his family for years. Mrs. Carr was Miss Eleanor Kearney, of the county.

A fine square house with a broad front porch was built by Mrs. Louisa Spruill about 1850. She was the widow of George Spruill and they owned a lovely home eight miles from town, called Roseland. It was bought by Dr. George Field, and he and his family lived there for many years. It was at Roseland that the Spruill family was visited by the awful scourge called Black Tongue. Some 20 persons, white and colored, died. The terror caused by so many deaths was far spread in the town and county. Every one was afraid to go near to assist the afflicted family. At first the coffins needed were brought from Warrenton and put in the grove some distance from the house. Later as the panic grew, they had to make the coffins on the place. The Rev. Mr. McRae went out to minister to the sick and the dead. He did not take the disease, but two of his children died from a similar attack.

Perhaps the greatest loss sustained by the poor mother was the death of her fine, promising son, Thomas Spruill, just graduated in law, who was to practice his profession at Oxford. There were four sons—Thomas, George, Peter Evans, and Charles. George was a graduated physician, but never practiced. Peter was a highly educated man, had traveled widely and resided in Europe several years. He returned in time to join the Confederate Army, and died in the service. Charles was a lawyer but did not practice; he edited the Warrenton *Gazette*.

Robert H. Jones, a native of Virginia, removed to Warrenton early in the nineteenth century. One day, while appearing in the court of Esquire Da-

vidson for a man who had stolen a bolt of cloth, Mr. Jones moved to quash the bill of indictment because the Solicitor had spelt the stolen article *cloath*. Squire Davidson inquired of the lawyer if that were the best he could do for his client. He was told that if it was and if the motion to quash was not allowed, he intended to plead guilty for his client and get the Court to have him whipped at the pillory instead of imposing a fine. His client jumped up and said "Great God, Mr. Jones, I employed you to have a fine put upon me and save me from the whipping post." Whereupon Colonel Jones said: "Sit down, you scoundrel, I know what you deserve and what is good for you and for your family!" The judgment: "*Cloth* spells cloth and *cloath* spells cloth, and the judgment of the Court is that the Sheriff take the defendant and hit him nine-and-thirty."

Mr. Jones was appointed Attorney-General of North Carolina in 1828.

The grounds on which the Male Academy is situated was a gift to the town by Dr. James G. Breton. Born Somerville, he had changed his name by legislative enactment to that of an uncle, in the hope of his uncle's fortune. He was considered a practitioner of note, compounding a drug called "Andi-ando-ignatius-opticum-nostrum," "four dollars a drop, cure anything."

The first newspaper was published in Warrenton at the beginning of the nineteenth century, called the *Warrenton Reporter*, and was owned and edited by "Dickey" Davidson, a naturalized Englishman. He was a small, dyspeptic, and very irritable man, living chiefly on toast and "content" (hot water and milk). Mr. Davidson disliked most of the institutions of the State and was especially inimical to the University. It seems a singular fatality that his will was found to be inoperative because of the generality of its terms, so that his estate of some value in lands and negroes escheated to the University of North Carolina.

An instance illustrative of the Scotch clannishness was told me by one of that birth in reference to the death of an early Scotch settler. One of the friends of the dying man was anxious to go into the room to see and be near him; but, being denied that privilege by those in attendance on account of his violent and noisy grief, he threw himself on the floor outside and placing his mouth at the crack of the door prayed lustily that God would spare his friend, and that "if Thou must take some one, must have a victim, there is a cuppen-fu" [cowpen-full] in the town as could be verra much better spared."

Rev. Cameron F. McRae became the rector of Emmanuel Church in 1842 and came to Warrenton to live that year. In 1852 he went to Phila-

delphia and assumed the rectorship of one of the churches in that city; it was there that Mrs. McRae died and was buried at Laurel Hill. Soon afterwards the two children, who had died from Black Tongue in Warrenton, were disinterred and buried by their mother.

In 1866, Rev. Mr. T. B. Kingsbury, formerly a Methodist minister, came as pastor to the Baptist Church and remained until 1870. While at Warrenton he published a book entitled, "What is Baptism?", which his readers generally, as well as himself, thought an able compilation. Years afterwards, when he had left the Baptist communion and returned to his original church membership, in answer to a question put to him in a letter from my husband as to what disposition he should make of several hundred copies of "What is Baptism?" left in his care, by the author, the Rev. (now Dr.) Kingsbury wrote: "Burn 'em, burn 'em."

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

PRACTICAL ASPECTS OF ANTICOAGULANT THERAPY

AN ARTICLE¹ on an important subject and which lives up to its promise to be practical is appreciated and the gist of it handing to our readers.

Each of the two anticoagulant drugs which are used has advantages and each has disadvantages. Heparin acts rapidly and its effect stops soon after discontinuance, but it is still expensive and parenteral administration is required. Dicumarol acts slowly and its effect disappears slowly. It is cheap and easily administered, but daily determinations of the prothrombin time, which are not always available are necessary.

An effective method is the combined use of the two started simultaneously—heparin used one to three days and discontinued as soon as the optimal effect of the dicumarol is manifested. For acute thrombophlebitis and pulmonary embolism treatment is for one to three weeks or as long as the patient remains in the hospital, in congestive heart failure and polycythemia long enough to bring the primary condition under control—usually after acute myocardial infarction for four weeks.

Dicumarol alone is effective as prophylaxis against thrombosis after operations, childbirth, or severe injury in cases in which the patient has had previous thromboembolic disease or in which the risk of thrombosis is great—begun 48 hours after operation, continued for seven to 14 days or as long as the patient is in hospital. In recurrent idiopathic thrombophlebitis and/or pulmonary embolism and in chronic auricular fibrillation with

¹ J. N. W. Barker, M.D., Rochester, Minn., in *Wis. Med. Jl.*, Aug.

intracardiac thrombosis, dicumarol has been used with apparent success over long periods of time, but it is necessary that the patient be kept under close medical supervision.

There are a few situations in which it may be desirable to use heparin alone as an anticoagulant.

Anticoagulant therapy has been used in cerebral arterial thrombosis and in thrombosis of the retinal veins.

Neither heparin nor dicumarol should be used in purpuric states, blood dyscrasias with tendency to bleed, subacute bacterial endocarditis, or in cases in which there has been recent operation on the brain or spinal cord. Dicumarol, but not heparin, is contraindicated in cases complicated by definite hepatic or renal insufficiency. For patients who have ulcerative lesions, particularly of the gastrointestinal tract, risks of bleeding are increased when anticoagulant therapy is used.

EXERCISING FOR POSTURE

(L. B. Greentree, Columbus, in *Ohio Med. J.*, Nov., 1950)

The large gluteal and abdominal wall muscles are the chief supporting muscles of the back. As soon as the pain of an acutely lame back disappears with rest on a firm bed, exercises to improve the tone of these muscles are in order.

Squeeze the buttocks together as if holding a coin between them, and then relax them. Gradually prolong until the exercise is done at least 50 times, twice daily. Progressive-resistance exercise can double the power of normal muscles within four to six weeks. For progressive-resistance abdominal wall exercise, the patient lies flat on her back with her toes hooked under a couch or bed bar, or with someone holding her legs down below the knees. With hands behind neck or head, she raises herself to the sitting position—repeated 10 times twice daily.

Voluntary muscles can be contracted and relaxed at will without causing gross body movements. These static muscular contractions are invisible to onlookers, and so can be practiced in public places. In taking invisible abdominal-wall exercise, while pressing her buttocks together, the patient pushes the muscle over her "stomach" in and out at least 50 times, twice daily. In invisible pelvic-floor exercise, the levator ani muscles are alternately drawing up and relaxed at least 50 times, twice daily. These exercises can be done while standing, sitting or lying down.

Diaphragmatic breathing exercises are demonstrated to the patient. She is instructed to rebreathe whereby each expiration is slightly less than the inspiration, so that by the end of the fifth inspiration, the chest cage is expanded and held high. Expiration is then accomplished by an upward inward pull of the lower abdominal muscles.

VIRUS PNEUMONIA

(*Medical Times*, Dec. 5)

No isolation of the causative virus has been made. Pneumococci, staphylococci and streptococci have been isolated but the patients did not respond to sulfonamide therapy, so these organisms were considered as not being causative.

A dry, severe, paroxysmal cough is characteristic. The sputum is mucopurulent, may be bloody. The signs are generally difficult to find. Leucocytes usually little increased, may reach 12,000 to 14,000.

In x-ray pictures early bronchial markings and both hilar shadows are increased. Shadows may persist for 11

weeks after t. has become normal.

Cold agglutinins have been found in the blood of 68.5% of patients having typical symptoms of virus pneumonia. Under aureomycin, 1 Gm. q 4 h., symptoms subsided within 18 to 24 h., and in 48 h. t. was normal. If the drug is discontinued at this time relapse usually occurs but further therapy will again be effective.

R. burneti and the psittacosis virus produce pulmonary diseases which cannot be distinguished from primary atypical pneumonia of unknown causation. Chloramphenicol is effective against these organisms.

Terramycin 1-5 Gm. daily is curative. It is believed that 2 grams daily in divided doses should be adequate.

HUMAN BEHAVIOUR

REX BLANKINSHIP, M.D., *Editor*, Richmond, Va.

MALINGERED PSYCHOSES

TO BE MADE A LAUGHINGSTOCK by a malingerer hurts a doctor's pride and his reputation as a man of sense. Davidson¹ gives instruction that may save from both these hurts.

Few psychotics volunteer information about their delusions. A malingerer keeps reminding the examiner of his "delusions." Delusional systems take time to develop: the malingerer's delusions develop speedily. In psychotics, a delusion is not an isolated symptom. "Monomania" is only a journalistic artifact. The malingerer does not know this. A psychotic's behavior is consistent—if not with his delusions, at least with his schizophrenia. A victim of persecutory delusions acts as if he were persecuted, a malingerer concludes he has done the job when he asserts the "delusion."

A patient in a genuine depression will, after a time, show physical signs of his disease state; the malingerer finds it almost impossible to sustain this picture hour after hour, day after day. Mutism is of all forms of malingering the most difficult to maintain. Absolute silence is almost unbearable to the sane man day after day. It is impossible for a sane person to keep up the unrelenting overactivity of acute mania. In true mania, the patient eventually becomes toxic, often feverish. His tongue coats, his pulse speeds up. The flight of ideas of mania has an idiomatic quality which is easy to recognize but hard to imitate.

Since jailers will not let a prisoner starve, it is not difficult to refuse food. A malingerer is much less likely to lie in his own feces. The constant repetition of a phrase or movement is very rarely evidence of a psychosis. In the court room, the defendant may walk like an ape, prance like a goat, or try to stand on his head; but not the psychotic.

The Ganser syndrome patient appears stupid or stupefied. He gives answers which are vaguely relevant, but absurd in content. He might give the

1. H. A. Davidson, Flemington, N. J., in *Bul. Menninger Clinic*, Sept., 1950.

date as January the 45th. The doctor who dismisses a Ganser syndrome as a form of malingering may find himself in difficulties. What the doctor can say is that the reaction did not develop until after the crime was committed; the syndrome is a reaction to arrest and imprisonment and therefore throws little light on the defendant's mental state at the time the crime was committed. A common defense is: "Everything went black; I don't remember a thing." For this, there are six possible explanations—hysteria, psychosis, alcoholism, head injury, epilepsy and malingering. Hypnotism or interview under barbiturates will not identify malingered amnesia because in both hysterical and malingered amnesias some recapture of memories will take place under narcosis or hypnotism. However, a malingered amnesia is generally patchy and self-serving. A genuine amnesia usually extends to all areas of memory and is not limited to facts which might hurt the defendant's "case." A hysterical amnesiac often forgets his name, the malingerer rarely. The medical witness need not testify bluntly that the amnesia is spurious. All that is needed, legally, is testimony that, in spite of the present amnesia, the defendant, at the time of the crime, acted as if he knew he were doing something wrong.

Recognition of malingering comes from assembling into an integrated whole all these factors, each of which may be individually of little importance; but all of which, in the aggregate, spell out a story that can be read plainly enough by looking at it whole.

CRIME AND PUNISHMENT

PUNISHMENT of crime, at times more severe, and in recent years more lenient, has proved itself insufficient to halt criminal activity. It was formerly believed that punishment did act as a deterrent, but a new school has arisen which denies that punishment does even that much. The adherents of this "school," apparently under the impact of modern psychiatry and particularly psychoanalysis, now advocate all punishment should be abolished.

A psychiatrist,¹ much concerned at the development of this "school," speaks out against its foolish and dangerous teaching.

Recently, the writer heard a debate on the radio between an officer of the law and the director of the Society for Prevention of Crime. The law-enforcement officer made the much more realistic approach to the entire problem. The director in a very dogmatic manner defended the point of view that criminals, all criminals, are sick people and should be institutionalized for treatment.

Obviously, there are not one-tenth enough psychiatrists and psychoanalysts, not one-tenth enough

1. M. H. Weinberg, in *Penn. Med. J.*, June.

institutional accommodations, to put these people's theories into practice. And it is to be remembered that these theories have not even been tested, let alone proved.

The writer, a psychiatrist, says the views expressed by the officer of the law are far more practical and sane in the method of handling the criminal in our midst. He candidly admits that psychiatry does not have, and it should not claim that it has, all the answers to the crime problem, and sensibly maintains that the experience accumulated by society through the ages is valuable and cannot be discarded so lightheartedly for theories which, by and large, still have to prove themselves.

SACCHARATED IRON OXIDE IN THE TREATMENT OF HYPOCHROMIC ANEMIA

(E. B. Brown et al., St. Louis, in *Jl. A. M. A.*, Nov. 25th)

Excellent therapeutic results were obtained in 10 patients with chronic hypochromic anemia from calculated doses of saccharated iron oxide given IV. Blood values were restored completely to normal; rates of hemoglobin regeneration were maximal. Two of the patients had been unable to tolerate oral iron in therapeutic amounts. Reactions to saccharated iron oxide were infrequent and mild. These results confirm completely the reports of several British investigators on the efficacy of this form of iron therapy.

No decision about the chronic, toxic effects of excessive deposits of iron in tissues can yet be reached. Because of this danger, it is imperative that saccharated iron oxide be given only to iron-deficient patients in a dose calculated to correct the deficiency.

There are few specific indications for the IV administration of iron. In patients who would respond satisfactorily to ordinary iron preparations given orally, saccharated iron oxide IV does not seem desirable because: reactions, even though mild and infrequent, will prove troublesome; daily injections for 10 to 14 days will often be inconvenient, and the cost to the patient is likely to be much greater than that for oral therapy.

PSYCHOTHERAPY FOR GREAT MAJORITY AT HANDS OF G. P. (B. V. Strauss, Brooklyn, in *Jl. Asto. Am. Med. Colleges*, July)

Analytic methods require that the therapist have specialized training over a period of years. Thus, these methods are properly in the province of the specialist and are not to be used by nonanalytically trained physicians. These procedures are not without potential danger.

Do not be disheartened by this, only a small percentage of patients who can profit by psychotherapy need psychoanalysis. There is far more need for minor procedures which the nonpsychiatrist physician can learn and utilize effectively and learn when to call for help.

Methods of widespread usefulness which you can learn to employ include ventilation, desensitization, encouragement, reeducation, specific advice and direction, use of community agencies, etc.

CAULIFLOWER EAR deformity can be prevented if the ear lobules are freed of the tissue serum which collects in that area as the result of a blow.

—W. Marshall, Two Rivers, in *Wis. Med. Jl.*, May.

IN THE FIELD OF MEDICAL EDUCATION there is growing dissatisfaction with existing programs and current practices are being studied critically in order to determine what changes should be made.

—John Romand, M.D., Rochester, N. Y., in *Jl. A. M. A.*, June 3rd.

PRESIDENT'S PAGE

MANY words have been spoken and many lines have been written praising the medical profession and its wonderful work for humanity. Few of us, however, appreciate the fact that these words and lines were directed directly at you and me. I should like to call your attention to this fact and ask that, as the New Year begins to turn the calendar leaves, you learn to appreciate nice things said about you.

In a recent speech one of the members of this Association stated that "to be a family doctor means to be an honorary member of the patient's family." What higher position could one attain than that of an honorary member? The Great Healer himself went about doing good, first to the physical being, and next to the spiritual being. This does not mean that we should put the physical before the spiritual. It does mean, however, that our job is to prepare the physical for the reception of the spiritual, and when the prophets wrote of the Great Healer, they said said "he went about doing good." Most of the parables were doing good to the physical man.

We should, therefore, take stock anew of the position that we occupy in this land of ours. We should first thank mankind for the honored position it has assigned us, and then quickly take inventory of ourselves, find out just how much appreciation we feel for the love, honor and respect shown us in our daily contact with our patients. If we do this I am afraid that some of us will find out that our stock of appreciation is low and that our supply has not been adequately safeguarded. The medical profession is sadly in need of a revival of appreciation. Such a revival would bring forward a new determination on the part of the profession to "render unto Caesar things that are Caesar's" and "unto God those things that belong to God." One sometimes feels that the present-day practice of medicine, the plan of specialization, has left God out, instead of taking him in as a partner. We prefer a diplomate of some specialty board. This is a definite sign of lack of faith.

Those who are entering the profession as young men and women, as well as those who are contemplating so doing, are sincerely urged that they not forget the teachings of the Great Healer. It is further recommended that no one attempt to practice the great profession of the healing art without invoking the daily blessings upon his work, and abiding by the Golden Rule. This, and this alone, will be able to withstand the storms of present-day medical education and practice. Therefore, my fellow practitioners, let me again urge you to take stock of your own selves and find out how much appreciation you actually have for your place on the pinnacle in your community.

—R. B. Davis

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A TEACHER OF PHYSIOLOGY REJECTS FREUDISM

NEVER have I understood or pretended to understand the theories of, or believed ten per cent of what has been put forward as fact by, one Sigmund Freud. The German name, Freud, is properly pronounced *froid*: in the opinion of an increasing number who refuse to be stampeded by mass hysteria, Freud is a close synonym for *fraud*.

It is to be earnestly hoped that this university teacher,¹ in a country famous for its sound reasoning, coming out firmly against this fraud will encourage doctors generally to free themselves of the awe in which they have been held by big-wigs in psychiatry, resume the use of their reasoning powers and toss everything Freudian into the discard.

The following sentences are reminiscent of my wisest teacher, denouncing Mesmer and his hypnotism.

"Having read the excellent paper of William S. Kroger and S. Charles Freed on Psychosomatic Aspects of Frigidity in *The Journal* of June 10th, I wish to protest against the introduction of freudian jargon into such a matter. Many physicians regard Freud's ideas as an ingenious system of nonsense. Infantile sexuality and the Oedipus complex are the two basic features of Freud's system, without which freudian psychoanalysis is as bereft as chiropractic would be without the theory that vertebral pressure on nerve roots causes disease.

Hitler was a typical paranoid personality; Freud, also, was a paranoid personality. Where Hitler tickled the vanity of a nation, Freud charged the breastwork of bourgeois stodginess. Freud was ignorant of the meaning of a scientific control, and his whole style of teaching was by platitudinous fiat. The belief that Freud based his conclusions on confession from his consulting room is wrong; he sought for disclosures that he could force into his fantastic system.

Freudians will point out that the violence of this indictment is an impertinence to the memory of a great man and in any case argues a gross psychologic quirk. Which is the more impertinent; for me to call Freud's system delusional, or for the freudians to say that I suffer from latent homosexuality, anal eroticism and jealousy of my late father?"

It so happens that right here came to light a memorandum of an essay by a quite different sort of authority on sexual matters.² Read how a doctor who is not a paranoid personality writes about sexuality, about the sexual act itself.

"The act should be a truly co-operative enterprise wherein neither wishes to derive pleasure at the

1. J. Markowitz, Associate Professor of Physiology, University of Toronto, in *Jl. A. M. A.*, Aug. 26th.

2. F. B. Exner, Seattle, in *Jl. A. M. A.*, Aug. 26th.

expense of the other. Creating a mutually enjoyable experience becomes the objective of each, and no rules apply except that whatever is done be safe for both and enjoyed by both.

The act, so performed, consists of appeal and response, offer and acceptance, enticement, surprise, suspense, all achieved by constantly shifting aggressiveness and passivity, activity and relaxation, on the part of each partner. When successful, the pleasure to each from pleasing the other becomes so intermingled with the pleasures of being pleased and of knowing that the partner wants to please, that they become indistinguishable. Each type of pleasure reacts with and reinforces the other to build up a potentially limitless shared ecstasy.

In like manner, and in these circumstances, the physical and the spiritual components of pleasure react on and reinforce each other, building to intensities of both that are beyond the comprehension of those who think in terms of how the "normal" person "should" perform the act.

I am convinced that, within the limitations imposed by the rights of potential offspring, the sole basis of sexual ethics is that same golden rule that is the only sound basis for any social relationship."

ADVANCES IN MEDICINE

A RELIABLE REPORT—what the English would call a critical report—on recent advancements in medicine is that made by an internist who, for many years was a practicing pathologist.¹

The variety and increasing definitiveness of newer diagnostic procedures require huge laboratory staffs and expensive equipment beyond the reach of most; but we must know about the value of these newer methods so those of our patients that need their application can have them.

Potassium metabolism may be so modified in diabetic coma, intestinal obstruction, postoperative states, renal disease and Addison's disease as to cause death.

Present laboratory tests are laborious and time-consuming, and we must know promptly. Serial ECG's serve the purpose. With low plasma K there are low QRS voltage, low or inverted T waves, depressed S-T segments and long Q-T intervals. With high levels, absence of P waves, wide QRS intervals and high T waves. The Flame Photometer gives quickly the values for K and other electrolytes; but is expensive and requires expert technique.

Laboratory men confuse unnecessarily by expressing Na and K in *milliequivalents* instead of *milligrams*.

Serum tests are appearing which help to bring abnormal proteins to light, and these tests may prove of value in the diagnosis of cancer.

Three new jumps have been made in cardiac and peripheral vascular diagnosis.

Angio-cardiography provides a means of study of cardiac, pulmonary, cerebral, intraabdominal and peripheral vascular anomalies, with little danger to the patient. It has proved of much value in diagnosis and treatment of congenital heart defects, aneurysms, and pulmonary and cerebral tumors.

Vascular catheterization aids in the diagnosis of many congenital defects, and in the study of hepatic physiology.

The direct-writing ECG is much simpler and well-nigh as useful as the older photographic type, we no longer need the limb leads now that we have the precordial and unipolar leads.

Aureomycin in virus infections, the chemotherapy of tuberculosis, and the tremendous improvements in the treatment of Rickettsial diseases and typhoid fever have been fully set forth in this journal's recent issues.

The rice diet in hypertension has the advantage of being low in sodium. Strict adherents achieve a significant drop in pressure in 37 per cent of cases, moderate adherents in 15 per cent. Some regard the treatment as more harmful than otherwise.

There are two new and similar amebicides on the market, aralen (chloroquine) and milibis. The former is a safe and effective drug against amebiasis outside the intestinal tract, the latter against the enteral form. Both are effective when given by mouth and this should lead to wider use for diagnosis and treatment in obscure diseases of the liver and colon.

The relative merits and demerits of morphine and its substitutes are discussed. Against pain demarol is one-tenth as potent as morphine, one-twentieth as dolophine. Demarol does not depress respiration of infants *in utero*, and is least apt to cause addiction. Dolophine is euphoric, so can be substituted for morphine in treating addicts without their knowledge. There is no report of primary addiction to methodone.

Loss of K in periodic familial paralysis and in infantile diarrheas, patients recovering from diabetic acidosis, those in alkalosis as a result of intestinal obstruction, nephritis and certain post-operative states may be given 2-per cent K Cl by vein or 4 Gm. of the citrate daily by mouth.

Interest in parenteral protein administration is lagging. It is said to be next to impossible to increase serum proteins with proteins or their derivatives given parenterally.

ACTH and cortisone are wonder-working agents, but for the present they are for investigation rather than for treatment.

¹ L. D. A. Glomset, Des Moines, in *Jl. Iowa State Med. Soc.*, Oct.

PSYCHOLOGICAL MEDICINE'S POSSIBILITIES STRICTLY LIMITED

A NEW NAME FOR THE ART OF MEDICINE

PSYCHOLOGICAL MEDICINE, we are told, is a universally useful instrument in our relationship with all patients. A teacher and practitioner in this field¹ writes informatively, and what he says appeals because the claims he makes for his specialty are modest.

Psychiatric training should bring an understanding of the limitations of psychiatry and a recognition that one's goals may have to be fairly modest. A skill, difficult to explain, which gives the doctor clues as to what kind of person the patient has been and what his present mental state is, has long been identified as the Art of Medicine. All psychiatry has done here is to bring up to a level of thought, where we can talk about and study them, things which we have used intuitively for many, many years.

In the absence of mechanical aids in diagnosis, the doctor must rely on his own senses to get an understanding of the patient's feelings. Lumped together in a structure called an "interview," these subtle skills are the tools a psychiatrist uses in treatment as well as in diagnosis. Some use a profusion of laboratory tests to impress the patient with the thoroughness of the examination and thus establish rapport: there are easier ways of establishing better rapport inherent in psychological medicine.

"How accurate are these guesses about patients' feelings?" "How much can we rely on our impressions of emotional aspects of cases in proceeding in treatment?" "Is this information exact enough so that we can really bank on it and be safe in not pushing our diagnostic armamentarium to the utmost?"

Facts brought out by psychological methods can be used with the same confidence that we use any other facts gathered in our medical workup. It is easier for doctors to see the radiologist's facts, derived from the film, than to see psychological facts derived from equally good evidence. An awareness of emotional factors does not exclude an awareness of organic factors. There is no more excuse for slighting organic factors, while paying attention to emotional factors, than for neglecting to examine the patient's heart irrespective of the demonstration of disease during examination of his lungs.

A surprising number of depressions have been found to be the primary difficulty of patients consulting a doctor in a general medical practice. How few of these patients expressed depression in psychological terms! Almost all were disguised by physical complaints. Out of the last 150 new patients in one group, depression was the sole or

major problem in 18.

The adoption of an attitude based on this knowledge makes it easier to treat the kind of problems that make up the bulk of practice, since an ability to feel friendly interest in the patient constitutes a large part of successful therapy.

Attention is called to three important facts:

This intelligent neuro-psychiatrist does not even mention the silly term "psychosomatic medicine."

He says the chief skill used in investigating psychiatric cases has long been embraced in the Art of Medicine.

He sets 18 out of 150 as the ratio of mental disturbance as the sole or major problem in a representative group of patients—not more than half, or up to 75 per cent as proclaimed by a lot of the more vociferous psychiatrists and their coadjudicators.

A LETTER TO THE EDITOR ON CHLORINATED SWIMMING-POOLS AND POLIOMYELITIS

(By R. O. Ward, in *Brit. Med. J.*, Sept. 9th)

Sir—In recent announcements concerning poliomyelitis it has been stated that in certain places the swimming-pools were to be closed. This seems prudent. I have only three or four times swum in such places, but on each occasion I was aware of an intense nasal irritation set up by the chlorinated water. Since then I have always believed that this is probably one important factor which encourages the spread of poliomyelitis, owing, I think, to the chlorine being ineffective as an agent for the destruction of the virus, but being present in quite sufficient concentration to disturb the normal resistance of the nasal mucosa and thus lay open an easy portal of entry.

The Merton Street Bath at Oxford was reserved for members of the University for bathing and for water polo matches, but we boys of Magdalen College schools were allowed to use it, and we went there every evening in the summer when we were not swimming in the Cherwell. In Eights Week the bath was crammed with those who, having run and sweated on the tow-path, wished to cool down before going into Hall. There were no showers for a preliminary rinse; everybody just pulled off his zephyr and shorts and went in. The content of bacteria and other low forms of life must have been prodigious, for the water was changed only two or three times in the term of eight weeks, the signal for this being the impossibility of seeing the bottom—an event which occurred quite suddenly and was due, I suppose, to the rapid growth of some mould.

Admittedly, poliomyelitis was uncommon in those days. Nonetheless, it is of interest that, despite the filth of the water—of which, of course, we took no heed—I do not remember any case of otitis media among us. During my five years as a schoolboy I am certain there was never a case of mastoid suppuration, nor, so far as I am aware, any unusual incidence of nasal or eye disease.

PROLAPSING GASTRIC MUCOSA

(D. B. Corcoran, Suffolk, & K. K. Wallace, Norfolk, in *Tra. Med. Monthly*, Jan.)

Brief summaries of the essential findings in the nine cases comprising the series are presented. We believe that prolapse of the gastric mucosa is much more common than is generally suspected. Since the physical findings and symptoms are not characteristic, diagnosis can only be established roentgenologically. The symptoms can be controlled medically in the majority of cases.

1. R. M. Magraw, Minneapolis, in *Minn. Med.*, Aug.

SUICIDE

A MID-WESTERN psychiatrist¹ writes helpfully on a subject of great importance of which misunderstanding is quite general. The gist of his article follows.

When a general medical man is confronted by a patient of 50 years who complains of sleeplessness, anorexia, some loss of weight, loss of the sense of wellbeing; usually it may be learned that the patient is depressed and has feelings of guilt and unworthiness. Such a patient with no pathologic process discoverable on physical, x-ray, or laboratory examination, will usually respond to rest, sedation, tonics and hormones. Many will remain sick; a few will seek self-cure through suicide.

Of all causes of death, suicide stands ninth. It is nearly twice as common as homicide and accounts for more deaths than the five most common communicable diseases. In 1947, suicide was the cause of 11.2 deaths per 100,000 population, as compared with 23 deaths per 100,000 due to motor vehicle accidents. Most likely half as many suicides are not reported as such, many cases of suicide being covered up by members of the family, with the collaboration of good doctors.

That one must be insane in order to commit suicide is simply not true. Another prevalent belief, even among psychiatrists, is that suicide is restricted to depressed patients. The incidence of suicide in schizophrenia, the various neuroses, and in patients having no definitive psychotic condition shows the falsity of this belief.

The adage that those who talk about suicide never commit suicide is pure nonsense, just as is the similar belief that those who fear "going crazy" never become psychotic.

Perhaps the most common erroneous explanations, offered so glibly by families, physicians and the press are: "despondent over ill health," "worry over finances," "an unsuccessful love affair," and "grief over loss of a loved one." It is significant that suicide is less frequent in time of economic depression than in time of prosperity; less in time of war, than in time of peace.

We are ignorant of the basic cause of suicide. The depressed patient is always potentially suicidal.

For patients who go to the family physician because of insomnia, anorexia, loss of weight, and malaise, a psychiatric consultation should be insisted upon. Patients with an elevated mood, excess energy, overtalkativeness and playfulness may be in a mild or early manic episode and are to be considered much in the same category as the depressed patient, on the upswing from a period of depression, a time which is especially dangerous.

If there is a history of the death of a beloved

1. C. L. Kline, Milwaukee, in *Wis. Med. J.*, Dec.

person at one of two periods in the patient's life, either at the age of six or at puberty, potentiality of suicide is increased. It also appears to be true that press reports of suicide in some cases supply the suggestion needed to set off a suicide.

Certain patients with strong feeling of guilt and need for punishment will attempt to satisfy the need; they develop symptoms or disease which demands surgical intervention. Many patients who have a stormy postoperative course, far out of proportion to what could be expected, may be unconsciously utilizing the operation for emotional purposes.

One can learn more about many suicidal patients from a glance into the childhood history than by a detailed analysis of their "despondency over ill health." Generally speaking, suicidal patients have always had difficulty in dealing with hostile impulses and aggressivity in general.

Psychiatric evaluation of the patient is just as essential in the depressed patient as is sputum examination in the tuberculosis suspect. The psychiatrist can evaluate the emotional factors in the patient and advise the physician what type of special management, if any, is indicated.

Dynamically oriented psychotherapy is usually the treatment of choice, but for certain patients, particularly those in the involutional age group, electric shock therapy is lifesaving.

So well does this journal agree as to the influence of suggestion that it has never carried an account of a suicide. Deaths of doctors by their own hands are set down as sudden deaths.

It seems remarkable that no mention is made of the role of heredity in suicide. Within the observation of any one of us past middle age are many instances of suicide of brothers, father and son, of mother and son. I knew intimately one of three brothers, all of whom committed suicide, as did their father before them.

MORE PROOF THAT THE OUTPUT OF THE NUTRITIONISTS IS
MOSTLY HOOTY

(A. M. Burgess, Providence, R. I., in *Jl. A. M. A.*, June 3rd)

Although they have lived for long periods under conditions poor indeed and the food allowance was low in calories and critically low in protein, the health records of the displaced persons generally, including infant mortality and contagious disease control, will bear comparison with those of any country. Resettlement of physicians has been slow, and it is believed that almost 2,300 remain in Europe at the present time. Most of the doctors of Jewish faith have been resettled, largely in the state of Israel.

MOUTH-HAND SYNKINESIS (G. H. Becker, St. Louis, in *Jl. Mo. Med. Assn.*, Jan.) is phylogenetically inherited and can be elicited in 80% of children under the age of 7 years. It may be elicited by directing the child to open his mouth. Abduction of the thumb and fingers follows by association. The reaction is usually bilateral.

GEORGE MARION COOPER, GREAT DOCTOR, GREAT HEALTH OFFICER, GREAT MAN

MANY have written about where, when and of whom, George Cooper was born, how he obtained his general education in the public schools of his native county, then taught for four years before entering on the study of medicine. Many have written of his years of general practice and of how the prevalence of diarrheal disease of infants, typhoid fever and tuberculosis, and the unnecessary deaths therefrom, turned his mind to preventive medicine, in which he was to so gloriously spend the greater part of his long life.

A sketch of his great work in public health follows.

As part-time County Physician of Sampson County from 1909 to 1913, with the aid of the Mayor and Town Board, Dr. Cooper made revolutionary improvements in the sanitation of the town of Clinton and, on his own, was the first physician in North Carolina to use typhoid vaccine as an experiment in mass prevention of typhoid fever. So successful was the work of this bold pioneer that, in the twenty-one months following this work in 1911 and 1912, for the first time in its history, there was not a case of typhoid fever in Clinton.

In October, 1913, he was made full-time Health Officer of Sampson County, being the fifth such local health officer in North Carolina. During 1914, he conducted, with the aid of the International Health Board, two experiments in community sanitation, one at Salemburg and the other at Ingold. The results achieved were so gratifying that those entering on such endeavors elsewhere were glad to adopt Dr. Cooper's methods.

He was President of the Sampson County Medical Society in 1910, and President of the North Carolina Public Health Association in 1913 and 1914. He was appointed head of the Department of Rural Sanitation and a member of the executive staff of the North Carolina State Board of Health and moved to Raleigh and assumed these duties in May, 1915.

In 1917, the school health work for the State Board was assigned him with the title of Medical Inspector of Schools. In the next year he devised and put into effect the system of dental care for all State public school children, under which, as since gradually expanded, three million of our State's school children have received free treatment, and, what is even more important, proper instruction in dental hygiene.

By 1919, this never-resting promoter of health measures had enlisted the support of health officers and specialists to the point of establishing the program of large-scale removal of diseased tonsils and adenoids of school children. He supervised these

clinics until 1931, by which time 23,000 children, living in every school district in 86 of the State's 100 counties, had had this operation, with the lowest mortality record in the history of such work in the United States. The educational effect of these two movements for better health for all children has been incalculable.

On March 1st, 1923, Dr. Cooper was appointed Assistant State Health Officer and Editor of the Health Bulletin. From September, 1923, to September, 1924, during the year's leave given Dr. W. S. Rankin, State Health Officer, Dr. Cooper became Acting State Health Officer. Upon Dr. Rankin's return Dr. Cooper was continued as Assistant State Health Officer, Director of Health Education, and Editor of the Health Bulletin until the resignation of Dr. Rankin May 30th, 1925, when Dr. Cooper was again made Acting State Health Officer, in which capacity he served until October 1st, 1926, when Dr. C. O'H. Laughinghouse became Health Officer. During Dr. Laughinghouse's term Dr. Cooper was Director of Health Education and Editor of the Health Bulletin.

On the election of Dr. J. M. Parrott as State Health Officer, July 1st, 1931, he became Director of the Division of Preventive Medicine in the re-organized State Board of Health. In this Division School Health Work, Maternal and Child Health Services, Health Education and editorial work engaged his time until the death of Dr. Parrott, November 7th, 1934. He was Acting State Health Officer during the last year Dr. Parrott lived, partially incapacitated by illness.

In 1934 Dr. Cooper was unanimously elected President of the Raleigh Academy of Medicine. On Dr. C. V. Reynolds becoming State Health Officer, following the death of Dr. Parrott, Dr. Cooper was elected Assistant State Health Officer; re-elected four times, his present term would have expired July 1st, 1951. His other duties continued the same as during the Parrott administration, with the addition of those of Director of Maternal and Child Health Services for the United States Children's Bureau, with responsibility of administering the Emergency Maternity and Infant Care work for service wives. During the war period, 44,600 maternity and infant cases required the aid of this bureau.

In 1941, Dr. Cooper was elected President of the North Carolina Conference for Social Service. In 1942, the University of North Carolina conferred the honorary degree of Doctor of Laws in recognition of his work in Health Education.

On April 24th, 1950, Dr. Cooper celebrated his 74th birthday by putting in a hard day's work and on May 1st, he observed the completion of thirty-five years' continuous work on the staff of the State Board of Health.

The Ladies Auxiliary of the Medical Society of the State of North Carolina honored themselves by endowing a bed in the Eastern North Carolina Tuberculosis Sanatorium at Wilson in his name.

In the fall of 1949, Dr. Cooper was invited to New York to receive the Lasker Award, in recognition of his remarkable achievement in the field of planned parenthood.

All these things and more did this good doctor man accomplish to the infinite good of the health and happiness of his people.

Since his death the present State Health Officer has said:

"North Carolina has lost its greatest Public Health Official of all time. He served longer, engaged in more activities and did more to make North Carolina Public Health-conscious and to minister to its Public Health needs than any man in the history of the State. He pioneered more Public Health services than any other man I know, not only in North Carolina but in the nation. Both personally and professionally he had few peers, if any, and no superiors anywhere."

More than once, was Dr. Cooper named Acting Health Officer and, for prolonged periods, he discharged all the duties of Health Officer; but each time this office was vacated by death and it became necessary to fill it by new appointment, "the State's greatest Public Health Official of all time" was passed over.

This man who had been my good friend since college days talked to me freely. He earnestly desired to be Health Officer of North Carolina, in name as well as in fact; and at every opportunity a small group of us earnestly urged his appointment, in justice alike to Dr. Cooper and to the people of North Carolina.

Why was this office, for which all testify he was so eminently qualified and which he earnestly desired, denied him? Echo answers, "Why?"

HEREDITY AND CANCER

(Editorial, *The Cancer Bulletin*, Texas Edition)

A few types of cancer and potentially cancerous lesions are generally recognized as at least hereditary. Retinoblastoma is known to be inherited. Multiple neurofibromatosis has long been recognized as dominantly inherited. Multiple polyposis is also thought to be inherited; and polyps of this type are generally regarded as precancerous lesions.

The significance of heredity as a factor in occurrence of other types of cancer is more in dispute. *Monzygotic* twins come from the same fertilized egg and are therefore identical genetically. They should always be alike for any characteristic which is conditioned solely by heredity. Differences between such a pair are suggestive of environmental effects. *Dizygotic* twins, derived from different eggs, should on occasion have the same genes and characteristics in common, just as two sisters or two brothers are sometimes alike. However, they can differ widely, either because they received different gene combinations from their parents or because their environments differed.

Macklin has collected the records of many twin pairs in which one or both partners had cancer. In 60 per cent of the monozygous twin pairs, both had cancer. This was true for 44 per cent of a small number of dizygous twins of like sex. Of greater significance is the fact that 97 per cent of the monozygous pairs, in which both partners had cancer, had lesions at the same site, in contrast to only 50 per cent of the like sexed dizygous twins.

Certain families have a high concentration of particular neoplasms. One family history showed many members who had cancer at a specific site. The paternal founder died from cancer of the stomach or intestine. Six of his ten children developed cancer. The family had 305 known members, with 174 past age 25, which was the earliest age at onset of cancer in the family. Among these 174, 41 persons had 43 cancers. Twenty-six, including all 20 affected males, had cancer of the gastrointestinal tract. There were also 15 cases of uterine cancer.

Mothers and sisters of breast-cancer patients have an incidence of breast cancer which is significantly higher than that of the general population. Jacobsen found more cancers at other sites in the mothers, sisters, fathers, and brothers of breast-cancer patients than in families of persons who did not have breast cancer. The findings of Penrose et al, however, failed to substantiate this. Thus, the two groups of workers agree on a heredity basis for cancer of the breast; differ as to whether the predisposition is carried over to other sites in the relatives.

If cancer is inherited, carcinogens may still be the responsible agent or activator. Some stimulus might be necessary to initiate the malignant transformation. And even though heredity is a factor in cancer susceptibility, a member of a cancer family will not necessarily develop the disease. However, some of the members have a risk greater than that of the average person. Balancing this, these members have the advantage of being forewarned. Indeed, the informed physician is in position to warn certain apparently normal people of their hereditary susceptibility to cancer—a relatively rare situation in medical practice. But rare situation that it is, it can save many lives.

"A" AVERAGE NOT REQUIRED FOR ADMISSION TO MEDICAL SCHOOLS

(*Medical Times*, Nov., 1950)

An A average in premedical college work is not required for admission to medical schools, Dr. Donald G. Anderson of Chicago, Secretary of the American Medical Association's Council on Medical Education and Hospitals, said recently.

According to a report to the council, 10% of students admitted to medical schools in the United States during the academic year 1949-1950 had no better than a C-plus scholastic average in premedical college work. Many others, Dr. Anderson pointed out, had B averages.

IN MALAYA during the past two years patrols have had to go far in the jungle, their medical officers with them. I found a number of leeches attached to the mucous membrane of the nasopharynx and to many other sites.

I removed three leeches, respectively, from the anterior end of the inferior concha of the left nostril, the buccal wall, and the tonsillar fossa on the right, by gripping them with a haemostat and pressing a burning cigarette-end held in another haemostat against them.

—R. I. K. Blyth, in *British Med. Jl.*, Nov. 4th, '50.

THAT SOME PSYCHIATRISTS have persuaded themselves they possess remarkable power seems undoubted, and they are ready to assume control of patients' lives to an extraordinary degree.

—W. A. Browne, in *British Medical Jl.*, Nov. 4th, '50.

NEWS

MEDICAL COLLEGE OF VIRGINIA

Dr. Harry Lyons, who has been with the College ever since his graduation in 1923, and who is well known in Virginia and nationally, on January 1st assumed the duties of the office of Dean of the School of Dentistry on a full-time basis. He will continue as professor of periodontia, oral pathology, diagnosis and the aperients.

Dr. John B. Truslow, now Assistant Dean at Columbia University College of Physicians and Surgeons, joined our staff as Dean of the School of Medicine on January 1st. He was prepared for medicine at Yale, graduated at Harvard, had good internship training, unusual opportunities for observation and development in the office of the Surgeon General of the Navy during the late war, and for the past four years has been Assistant Dean at Columbia.

THE AMERICAN COLLEGE OF ALLERGISTS

will hold its seventh annual meeting at the Edgewater Beach Hotel, Chicago, February 12th-14th, 1951. This year these will be section meetings: Psychosomatic aspects of allergic diseases, under the leadership of Harold Abramson, M.D., of New York; on Pediatrics, under Bret Ratner, M.D., of New York; on Allergies of the Nose and Throat, under George Shambaugh, M.D., of Chicago; on Allergic Diseases of the Skin, under Rudolph Baer, M.D., of New York City; and the Allergic Aspects of Rheumatism and Arthritis, under George Rockwell, M.D., of Cincinnati, as well as a General Session when hay fever, asthma and the newer drugs will be discussed under the leadership of John Mitchell, M.D., of Columbus, Ohio, the President of the College.

This year the College is, for the first time, offering its post-collegiate instructional course on the three days just preceding its annual conclave. This course has been arranged with the thought in mind that 10 per cent or more of all the patients in a physician's practice have an allergic component in their complaint. It is designed for physicians who want to learn the basic principles of diagnosis and treatment of allergic individuals. A fee of \$35.00 will be charged for the three-day course February 9th-11th. For further information and registration write Fred Wittich, M.D., Secretary-Treasurer American College of Allergists, LaSalle Medical Building, Minneapolis.

THE MARLBORO COUNTY (S. C.) MEDICAL SOCIETY held its Thirtieth Annual New Year's Meeting at the Country Club, Bennettsville, the evening of Thursday, January 11th.

After a social hour and an elaborate banquet, an address on Banthine Bromide in the Treatment of Peptic Ulcer was given by Dr. Keith Grimson, Professor of Surgery, Duke University, and general discussion followed.

DRS. BAXTER, HALL and LAFFERTY announce the association of THOMAS O. COPPEDGE, JR., M.D., and the removal of their offices from 407 North Tryon Street to Suite 2-A, Doctors Building, 1012 Kings Drive, Charlotte, N. C.

DR. WILLIAM T. BERKELEY announces the opening of offices, Suite 8-C-1, Doctors Building, Kings Drive, Charlotte, N. C. Practice limited to Plastic and Reconstructive Surgery.

DR. CLAUDE A. FRAZIER announces the opening of offices for the practice of Pediatric Allergy, 403 City Building, Asheville, North Carolina.

DR. WILLIAM FRANCIS MARTIN, of Charlotte, has been awarded the honor of Certified Fellow in the International College of Surgeons, the highest degree which this organization confers.

DR. LOGAN O. JONES and DR. RAYMOND WHEELER announce their formal association in the practice of Internal Medicine, Offices, 1320 Scott Avenue, Charlotte, N. C.

DR. E. J. DUNNING announces the removal of his offices to Suite 8-D, Doctors' Building, Kings Drive, Charlotte, N. C. Practice limited to General Surgery and P-urology.

DIED

DR. RUTH MASON-GRIGG, 57, Petersburg, Va., physician, died at her home January 1st. Dr. Mason-Grigg, a native of Sussex County, was graduated from Farmville State Teachers College and the University of Virginia Medical School. She served her internship in New York and entered practice in 1925.

She was active in local medical circles and once served as president of the Petersburg Medical Faculty.

Dr. Mason-Grigg gave up private practice two years ago to become head of the dispensary at the WAC training center at Fort Lee, a position she held until her death.

DR. JULIAN E. TRAINUM, 52, Richmond physician, died December 29th. Dr. Trainum, who had not practiced in recent years due to illness, was a native of Richmond and received his medical education at the Medical College of Virginia, graduating in the class of 1927.

SECURITY AND INCENTIVE

(Editorial in *Brit. Med. J.*, June 3rd)

Scottish social welfare operated on the principle of "no person should be maintained by charity in the same manner that he lived by labour: there ought not only to be a descent from station, but an abridgement of comfort, and the object ought never to be more than a mere decent subsistence."

WYETH INCORPORATED announces the removal of the executive and administrative offices on January 2nd, 1951, to 1402 Walnut Street, Philadelphia.

GENERAL MOTORS CORPORATION has projected a \$1,500,000 research plan to promote better health for the men and women of all American industry. It joined hands with the University of Michigan in establishing The Institute of Industrial Health at Ann Arbor, Mich., whose broad objectives will be research, education and service in Industrial medicine, health and safety."

The second of a series of seven Sectional Meetings of the American College of Surgeons will be held at Hot Springs, Virginia, on February 26th-27th, headquarters at The Homestead.

The good observer is not limited to the large hospital.—Osler.

Education is a lifelong process, in which the student can only make a beginning during his college course.—Osler.

We are here to add what we can to, not get what we can from, Life.—Osler.

There is no relation between basal metabolic rate and blood cholesterol.

—R.W. Kissane et al., in *Ohio Med. J.*, Nov.

BOOKS

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES, by PAUL TITUS, M.D., Obstetrician and Gynecologist to the Shadyside Hospital, Pittsburgh; Secretary of the American Board of Obstetrics and Gynecology, etc., with 446 illustrations and nine color plates; fourth edition. *The C. V. Mosby Company*, 3207 Washington Boulevard, St. Louis 3, 1950. \$14.00.

The large number of changes and new developments in obstetric practice since the previous edition demands the putting out of a new edition. New developments in sterility studies, management of threatened abortion, management of placenta praevia, changes in views on toxemias of pregnancy and prevention and management of hemorrhage and shock are cited as particularly requiring changes in presentation. This also applies to changes in methods of induction of labor, preparation for delivery, repairs of perineal tears, third-stage management and that of retained placenta. There is much that is new on analgesia and anesthesia in labor, and on the subject of blood and other infusions, including Rh incompatibilities.

This is an elaborate and authoritative presentation of a strictly practical nature.

SURGICAL NURSING, by ELDREDGE L. ELIASON, A.B., M.D., Sc.D., F.A.C.S., Emeritus John Rhea Barton Professor of Surgery, University of Pennsylvania School of Medicine; L. KRASER FERGUSON, A.B., M.D., F.A.C.S., Professor of Surgery, Graduate School of Medicine of the University of Pennsylvania; and LILLIAN A. SHOLTIS, R.N., B.S., M.S., Assistant Professor of Surgical Nursing, Yale University School of Nursing. Ninth edition, revised and reset, 336 illustrations, including nine subjects in full color. *J. B. Lippincott Company*, E. Washington Square, Philadelphia. 1950. \$4.00.

Rapid strides in surgical treatment have made necessary the almost complete rewriting of the book, the aim of which is to give enough on symptoms to enable the nurse to understand the principles and the techniques of the subject. In this edition have been outlined for the nurse the social, the economic and the public health aspects of surgical disease, and the authors have endeavored throughout to impress the nurse that she should regard every patient as a person rather than a case. Several pages are included which deal with instruction on etymology, a provision much needed by physicians and surgeons as well as nurses.

DIFFERENTIAL DIAGNOSIS OF INTERNAL DISEASES: Clinical Analysis and Synthesis of Symptoms and Signs, by JULIUS BAUER, M.D., F.A.C.P., Clinical Professor of Medicine, College of Medical Evangelists, Los Angeles; Senior Attending Physician, Los Angeles County General Hospital; formerly Professor of Medicine, University of Vienna. *Grune & Stratton, Inc.*, 381 Fourth Ave., New York 16, N. Y. 1950. \$12.00.

Prominent symptoms are considered largely in

the order of frequency encountered in practice. It is of great advantage to the doctor to have available a discussion of the various possible explanations of headache, chest pain, abdominal pain, backache, pain in the extremities, vertigo, nausea, disorders of consciousness, cough and dyspnea, diarrhea and constipation, hemorrhages, incoordination and involuntary movements; and even more so to have a presentation of the many possible causes of disorders of the general feeling to consult in times of need. All this and more makes up Part I.

In Part II helpful information is afforded on a consideration of the general appearance, of fever, of infectious diseases, and of the leading signs which may manifest diseases of the various systems.

A special recommendation for the work is that it sets forth what the author has learned by experience, and leaves out all of the multitude of opinions that are being expressed by those who are considered, for good or poor reasons, to be authorities. The appearance of dogmatism is obviated by the inclusion of a profusion of references which the reader may consult or not as he chooses.

PHYSICAL DIAGNOSIS, by RALPH H. MAJOR, M.D., Professor of Medicine in the University of Kansas. New, 4th Edition. 446 pages with 469 figures. *W. B. Saunders Company*, Philadelphia and London. 1951. \$6.50.

This book is the result of 40 years of practice and teaching of methods of diagnosis in which the author has well justified confidence. From it the medical man eager to learn, whether a medical student or a doctor old in practice, can gain the knowledge that may be had from the utilization of our five senses in the examination of patients. There is no disparagement of other methods of examination. There is only a proper setting forth of the value and the technics of what has been so long known as physical diagnosis.

EURAX, A NEW SCABIEA CURE
(A. J. Thronstein, M.D., in *Ohio Med. J.*, Sept., 1949)

A series of 109 scabetic patients were treated with a 10% ointment of Eurax; 89 were treated by a 2-application method with only a single failure; 20 patients were treated by a single-application method with two failures. Supplied by J. R. Geigy Co., New York.

BURSITIS
(T. T. Stone, Chicago, in *Ill. Med. J.*, Dec.)

Of 19 cases of chronic subdeltoid and acromial bursitis reported, 16 showed calcific deposits or shadows in the involved bursae. All of them made an excellent and permanent recovery with four or five x-ray irradiations. In three cases diagnosis of bursitis was made on pain over the subdeltoid and acromial bursal regions. X-ray irradiations produced a cure in these three cases.

Editor's Note.—Four years ago Dr. R. H. Lafferty made an x-ray picture of my very painful left shoulder and found a calcified bursa. He advised me to buy a \$2.50 red bulb and heat the part well twice a day for 10 min. In a week the pain was gone, and it has not returned.—J. M. N.

THE JOURNAL OF SOUTHERN MEDICINE AND SURGERY

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JAMES M. NORTHINGTON, M.D., Editor

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No. 2

Therapeutic Value of Gardening

ORIN R. YOST, M.D., Orangeburg, South Carolina
Psychiatrist-in-Chief at Edgewood Sanitarium Foundation

GARDENING, if we may believe Genesis, is the oldest of occupations, and among all the recreational activities and hobbies indulged in by human beings, gardening is the best suited to all ages. Gardening, indeed all nature study, offers satisfactions for which none is too old, few too young. Children of all ages take a loving interest in flowers, even babies being attracted by their colors: and many of the world's most enthusiastic gardeners have passed their "three-score years and ten." It can be said with truth that gardening is no respecter of age, race, creed or profession, for all the world loves a beautiful garden, be it composed of flowers, fruits, vegetables, vines or trees.

Today, as we consider the motives of the many millions of our people engaged in this fascinating pursuit, it will be our purpose to stress, in particular, the health-giving or therapeutic value of horticulture. Incidentally, Richardson Wright, one of our well-known writers on the subject, has recently given to this activity the appropriate name "hortotherapy," the first part of the term being taken from the Latin word meaning "garden." Hence, "hortotherapy" means the curative treatment of human ills by gardening.

"Why," we ask, "does one indulge in gardening?" In reply, it might be noted that some people develop vegetable gardens in order to reduce the

high cost of living, as they use the fruits and vegetables for household consumption. Sometimes whole communities and districts cultivate gardens in order to feed the hungry both at home and abroad. In support of these motives, let us recall the meaningful, successful programs of the Victory Gardens during the war era and the Freedom Gardens of the post-war era. The latter program, as a health project, commends itself without reservation. When food in the war-ravaged areas of Europe and Asia was practically unobtainable, every report from those countries provided data on the need for food abroad. Our own South, with its practical disappearance of pellagra, and greatly decreased incidence of other nutritional diseases, also supplements this evidence.

Other people, it should be noted, indulge in gardening for fun, for play, or diversion, for gardening is a pleasant venture and a delightful, profitable pastime. Gardening, though never easy, offers a challenge to many who realize that a triumph over odds helps to build confidence, assurance and independence. A garden is unquestionably an opportunity for self-expression by the work of one's own hands and by nurturing living things.

Other people begin to cultivate garden plots, because their love for flowers develops into a desire to sow the seed, to grow them, and to produce cuttings. Gradually, the interest becomes a fascination, and almost before the horticulturist realizes

it, he has become deeply absorbed in gardening.

Today, educational leaders are recognizing the value of gardening and, in some institutions, are encouraging children to take up this pursuit. Educators realize that, as old as gardening is, it is still in its infancy in the school room. As fundamental as it appears to be, it is still a greater riddle than history, mathematics or geography. Indeed, the chemist, botanist or philosopher can furnish no explanation of the behavior of the seed, the opening of the blossom, the call of the cricket, or the feel of the soil. Yet all these mysteries are daily helping to educate the child for citizenship, to train him in self-reliance, to combat juvenile delinquency; to develop appreciation of the beautiful, simple and worthwhile things of life. All boys and girls should be afforded, through gardening, the opportunity of understanding and appreciating the immediate world of nature that they might keep in better tune with the universe. Aside from these advantages of gardening for children, there is the important value of building healthier minds in healthier bodies.

Of course, there are many who, like the members of this organization, enter the pursuit of horticulture for the purpose of beautifying their homes and churches, or for becoming more expert in flower arrangement or acquiring new scientific methods for improving their efforts at horticulture, as well as for staging flower shows.

Other than the motives for gardening mentioned thus far, is the all-important motive of healing. Physicians and sociologists, in particular, have within recent years stressed its therapeutic value to the handicapped and the sick, especially those suffering from emotional and nervous diseases. The crippled, the blind, and especially the elderly folks, who are unable to indulge in golfing, swimming and other recreations, find that gardening is within the range of their physical powers.

The story is told that a prominent New York Supreme Court judge who was sorely wounded in the First World War was brought home from the hospital, still unable to walk. It was Spring. Always an enthusiastic gardener, he felt that if only he could plant some seed, he could get well much faster. So each day he was carried out to the garden and was set on the ground. With great effort he managed to hunch himself along. After a few weeks of this, when weeds began appearing, he found he could locomote on his knees. By mid-summer he was walking and working all over the garden. It was a slow cure for the restoration of wounded leg muscles, but the desire to garden was the beginning of it. Fortunately, he had the desire.

Along the lower tier of New York, the story is still told of the brusque but eminently sane country doctor called in by a patient who was suffering

from the ills attendant on having too much money. After his examination he said he would return the next morning with the medicine. He appeared bearing a spade, a rake, a hoe and two packages of seed and he prescribed a row of corn and a row of zinnias. It was not, however, his general prescription. Were gardening declared a cure-all, our hardware stores and seedsmen could scarcely handle the business.

Real doctors have always been "menders of distressed lives," and garden making has always been a favorite prescription for the pacification of man's inner conflicts. There seems to be a healing influence in every small plot of earth. There energy for the body germinates; there grief is stilled; and there irritation and fatigue vanish. Patients who indulge in horticulture enthusiastically say: "I sleep better;" "I eat better;" "I actually am rested by the work." It is to be remembered that gardeners are rewarded with the health-giving balm of sunlight and fresh air, as well as the benefits of physical exercise and the satisfaction of creative achievement. It has been observed that as a man works in his garden his tensions leave off. Gardening also affords stimulation of the mind, for as the patient merely watches things grow, he experiences a sensation of usefulness in production. The mere spading of a plot seems to banish worry. Gardening clears the mind of many a cloud and rids the body of many an ill. Few things there are that can restore man's faith more effectively than witnessing a plant bursting into beautiful flower, or a once-cold, dead-looking bulb being transformed into a brilliant blossom. Whether the garden be only a few potted flowers gracing the window sill, or an extensive area devoted to truck, it will furnish a therapeutic value by its constant unfolding of new delights.

The general glad testimony is that troubles melt away in the serenity of a garden; its peacefulness and restfulness fit us for facing the trials of life and solving its problems, all of which must increase the length as well as the happiness of our days. It is, therefore, small wonder that in their rehabilitation programs for disabled veterans, the possibilities of gardening as a therapy have been widely explored.

Many tired desk workers and residents of over-crowded cities are likewise deriving health and happiness from horticulture. Especially do the men and women who engage in physical labor in large plants, such as the Ford Motor Company and the Firestone Rubber Company, find untold benefit as they cultivate flowers and vegetables on company-owned land or on their own property. Hundreds of executives and personnel directors report less absenteeism, better employer-employee relationships, much of which they ascribe to such horticultural projects.

What with improved fertilization, more scientific methods of cultivation, and ingeniously modified tools, many blind people today are finding acceptable outlets, diversion, profitable living and an extra incentive as they indulge in developing vegetable and flower gardens. For this group, gardening is proving an especially desirable activity because it furnishes to the sightless an open air activity well suited to their other highly-trained senses. Many books on gardening are now being produced in Braille.

My own experience while employed as Reconstruction Officer in two Veterans Administration projects furnishes ample proof that gardening is highly beneficial as a therapy for distraught emotions. In one instance where land available at an abandoned camp site proved ample, psychotic and neurotic patients were assigned to such occupational therapies as planting and dressing vineyards, growing grain crops on the government farms and cultivating flower gardens. Trained occupational therapists, physiotherapists and attendants were always in charge of the patients who worked in groups of ten. The patients, provided with suitable clothing, were thus able to spend a great deal of time out of doors.

In a similar set-up in one of the Eastern states, special emphasis was placed upon flower gardening which proved so fascinating to many of the patients that, after their discharge, they developed similar projects at their homes and continue to pursue this activity even at the present time. These patients, from all walks of life and few of whom had previously evidenced any interest in gardening, found pleasure and improvement in health of body and mind in the growing of flowers. In hundreds of cases of bed-wetting, development of interest in flowers brought such improvement as to effect a fifty per cent reduction.

The great majority of the patients given this form of therapy took great pride in exhibiting their blossoms within the sanitarium.

Also in a private mental institution I have noted marked improvement among patients who "dug and delved" among their flowers. At one of the well-ordered mental institutions in the North, I recall a very successful arrangement by which the patients, even during the winter months, spent most of their time in their gardens, some of them even developing artificial garden plots. With the approach of hot weather, patients would also remove their potted flowers from the green-house and place them in the ground. On hand at this institution was a trained florist who guided and often lectured to the patients about their gardening projects. It is hardly necessary to say the interest shown by these patients and the rewarding benefits to them proved beyond all doubt the efficacy of

hortotherapy.

That wise man, nearest perhaps of all to having been a universal genius, Francis Bacon, once said: "God Almighty first planted a garden; and indeed, it is the purest of human pleasures." The truth of this statement is not difficult for anyone to understand, for no one can deny that, "more grows in a garden than the gardener has sown." Yes, the harvest of flowers, fruit and vegetables, when compared with the great health-giving values, may well be the least of the rich dividends a garden plot will pay.

A NEW TREATMENT FOR CHICKENPOX AND OTHER VIRUS DISEASES

J. W. Lebher et al., Sandusky, in *Ohio Med. Jl.*, Jan.

Protamide, a sterile colloidal solution of processed and denatured proteolytic enzyme obtained from the glandular layer of hog stomach has become available for intramuscular use in the treatment of various virus diseases. Its principal application has been in the treatment of herpes zoster. It has also been found to be of value in control of the neurological manifestations of tabes dorsalis. In therapeutic doses there is no evidence of acute or chronic toxicity or any hemolytic action.

There is a close relationship between the virus of herpes zoster and the virus of chickenpox. Protamide has been used successfully for treatment of chickenpox. There was prompt relief of pruritis, fever and discomfort, and definite amelioration and shortening of the disease.

This preliminary report is made to present an effective treatment of an annoying disease and to stimulate further research in this disease and other virus diseases.

*Protamide (trademark), Sherman Laboratories, Detroit, Mich.

HOARSENESS: THINK OF CANCER OF THE LARYNX

G. L. Green, Louisville, in *Jl. Ky. Med. Assn.*, Jan.

Any individual who can open his mouth, regardless of age, can have his larynx examined. Hoarseness of three weeks demands larynx examination. In most cases this is a simple office procedure accomplished by using a laryngeal mirror. Excessive gagging can usually be overcome by patience on the part of the examiner and the use of local anesthesia. If the patient still fails to cooperate, the examination warrants admission to the hospital where direct laryngoscopy can be done, under general anesthesia if necessary.

Carcinoma of the larynx is the commonest disease associated with hoarseness in adults. It is 100% fatal if the diagnosis is not made early. If it is made early it can be cured in 82% of the cases by operation.

CULDOCENTESIS

D. W. & W. D. Beaucham, New Orleans, in *New Orleans Med. & Surg. Jl.*, Jan.

Analysis of the deaths due to ectopic pregnancy which have occurred in the Charity Hospital since 1937 reveals that had the first physician who saw the patient suspected hemoperitoneum and performed aspiration, the majority of these deaths could have been prevented.

An analysis of over 500 cases in which aspiration of the cul-de-sac was performed showed the procedure is of great value in the early diagnosis of ectopic pregnancy.

Of the 194 cases with hemoperitoneum in which aspiration was attempted, failure occurred in 4.8%.

Of the total number of aspirations misinterpretation of blood obtained has led to unwarranted laparotomy in six cases. Means of avoiding this error are given.

Hypnotherapy and Narcotherapy of A Bisexual Struggle

LOUIS S. LONDON, M.D., Washington

INTRODUCTION

THE term, bisexuality, connoting the existence of both male and female qualities in an individual, its usage synonymously with hermaphroditism lacks the exactitude which we like to observe in our clinical descriptions, for the latter term refers exclusively to organic manifestations of this abnormality. Goldschmidt¹ uses the term, intersex, to describe the individual who, from a genetic standpoint, began sexual development as a member of one sex and shifted to the course of the opposite sex for extension and completion of sexual development.

That bisexuality is a universal phenomenon is formulated in many styles and contexts in psychoanalytic literature. Freud¹ wrote: "It would seem palpably obvious that the repression and the formation of the neurosis must have originated out of the conflict between masculine and feminine tendencies, that is, out of bisexuality." Jung² observed: "Since the nature of the human being unites masculine and feminine elements, a man can love the feminine in himself, and a woman the masculine in herself." According to Stekel³ there is no monosexual person, and psychoanalysis has proved that all homosexuals have had heterosexual tendencies in early life.

A Case

Henry was 38 years old when he first came to my office. At 22, after a two-weeks courtship which was apparently a neurotic flight, he had married and this, he said, had provided the occasion for his first heterosexual experience. Incestuous identification is evident in this relationship, for Henry's mother had brought the girl to the boarding house which she maintained. A son was born to the young couple, but after about three years the marriage was dissolved. At 35, the patient married again.

In the initial interview, Henry said, in the manner of one making a confession, that only a week before he had allowed a man to commit fellatio on him. He added that his sexual urge is greater with men than with women. On this visit he claimed that his first homosexual experience had not taken place until he was 12 or 13.

He discussed his present marriage which, of course, was unsuccessful as the first because he was dividing his libido between his homosexual and heterosexual components. Indeed, just after his second wedding he became so acutely anxious that he was hospitalized for 14 months. During the year which had followed his discharge from the hospital, he had made frequent furtive trips to New York City where he got intoxicated and spent the nights at a Turkish bath where he accosted homosexuals and joined them in sodomy and fellatio.

At the beginning of the second session, Henry complained that he was drowsy and then he related a dream: *The man that works with me tells me to look at a train but I did not see anything.* Here his resistance is easily discernible. The analyst is the man who works with him and shows him something and he cannot see it. The train

in this case is the *analysis*. In associating to the dream, the patient comments on a compulsion to look (voyeurism) at men. He stresses his feelings of depression and his inability to concentrate on work. His movements are slow and he feels retarded. Although he evinces depression symptoms, they may be regarded as indicative of an anxiety state which has emanated from his abnormal sexual life.

Hypnotherapy is now administered, and the patient immediately is put into a hypnotic trance in which he receives the following suggestions:

1. You are to feel relaxed.
2. You are not to fear meeting people.
3. You are to apply yourself to your work.
4. You are not to think of sexual thoughts.

The same suggestions were made on the next two visits at two-day intervals.

Under hypnosis during his fifth visit, the patient responds to questions about his immediate sexual situation:

Dr. "What do you think is the cause of your trouble?"
 Pt. "It must be something that happened when I was young."
 Dr. "What kind of sex do you want?"
 Pt. "I should have some kind of sex."
 Dr. "Do you want to cohabit with a woman?"
 Pt. "Yes."
 Dr. "Whom do you want?"
 Pt. "My wife if I was sure I could have her."
 Dr. "I understand she is away."
 Pt. "There is no one else."
 Dr. "Would you have normal sex?"
 Pt. "No."
 Dr. "Would you want——(name of woman)?"
 Pt. "Yes. That will be all right."
 Dr. "Do not tell her."
 Pt. "If I go there, I will want to drink."
 Dr. "Why do you want to drink?"
 Pt. "It just increases the sex desire."
 Dr. "How much will you drink?"
 Pt. "Just a little alcohol."
 Dr. "You will not practice perversions?"
 Pt. "No."
 Dr. "When did you have your last experience?"
 Pt. "When I was with her four weeks ago."
 Dr. "Were you satisfied physically?"
 Pt. "I was, but I have often gone up and then later met a man."

It was then suggested that the patient limit his intoxicants to three glasses of beer and that he abstain from perversions and homosexuality.

Much of the sixth session was occupied by Henry's account of the homosexual experience that had occurred when he was between 12 and 18, and a detailed exposition about his first wife's physical uncleanness. Homosexual desires arose during the early marriage, but he always curbed them. He objected when his wife tried to get into bed with him. She was from a backward country environment and did not like to bathe. She would sponge herself with a wash cloth while she wore her nightgown. When he complied with her request that he wash her back, he noticed that her skin was stained with long-accumulated dirt. During the last six or seven months of the marriage, the couple did not have sexual intercourse. The young woman asked a physician to certify that he was deprived of sex, but the doctor refused.

Over the eight-year period after the end of the marriage, the patient had intercourse with her twice, once after a year had passed, and again after another three-year lapse.

Henry brings a dream on his next visit: *"I am in a large room at a banquet table. I am at one end; another man is at the other end. Each man is folding the cover."* This is another transference dream. The *table* represents the *analysis*. The *analyst* and *analyssand* are trying to remove the *table cloth* (repression).

The patient says he feels depressed and does not want to live. For two or three weeks he has had suicidal ideas. In a magazine he has read that if one could hold down 200 aspirin tablets death would result.

He leads into details of his homosexual activities by commenting on how disturbed he was when at a recent party someone asked a question about the "Well of Loneliness," a story of Lesbian tone. "Recently I met a man in a smoking room—" and now he tells of an ensuing homosexual act. And then back to the broken marriages. With his second wife he had ceased to have sexual relations for some three months before she left him. He is sexually adequate and can cohabit for 15 to 20 minutes, but it is difficult to have an ejaculation.

Homosexuality, marital unhappiness, depression are interwoven as he resumes. He has been to two clinics, to a psychopathic hospital, to a state hospital. Since the age of 18 he has had depressed periods which usually lasted a month. Four years ago he contracted a gonorrhreal infection from a negro. He had visited a private psychiatrist for two or three months, but he never told this to the psychiatrist.

On another visit he says a reconciliation with either of his wives is impossible. He is unhappy. He sees how selfish he is; he sees that his only interest is himself. Homosexual thoughts dominate his life, render him unable to participate in normal functions. He met a sailor who suggested that they go away together for a month. He believes the sailor is a homosexual, but he also believes the man is interested in his second wife. The sailor has said: "She is what I need." When Henry married his second wife he was apprehensive. The woman felt sorry for him and wished to help him by marriage. His proposal came after they had sexual intercourse.

A dream shifts his thoughts to earlier days. *There were children climbing up a pole. One, five years old, was at the top of the pole, and was losing his balance.* Henry believes that the central figure in this dream is himself. His earliest sexual recollections are concerned with events—sexual sensations in his phallus—in his seventh or eighth year.

At 18 he had his first heterosexual contact. The woman, 15 years older, was a mother surrogate, as were the first and second wives, and she, too, was met at the mother's boarding house. As recently as three years ago the patient had intercourse with her. The patient performed fellatio on this woman's son.

Henry gives a detailed account of parties in which he indulged in orgies with a man and a woman.

His resistance to analysis is again revealed in a dream related at another session. *"I am in an enclosure and am to be executed. You (analyst) are also there."* The *enclosure* is the *analytic room* and the *execution* is the *analysis* getting the deep-rooted guilt out of his mind.

"I feel like running away," he says, "and do not even want to see my son." He is depressed; he does not want to live. When he was in the state hospital he had heard that he was considered to be a borderline case. He complains of tenses in his stomach and rectum and says he gets into panic states.

At the next session he announces that since he has last been to the doctor he has reverted to his former practices. He met a man in a urinal and accepted his invitation to

take a ride. Liquor and perversions followed. Then Henry had felt relaxed, and the man had driven him to a girl's house for he wanted to watch Henry have sexual relations with the girl. The girl was not home, so the man drove the patient to a sailor's house, but the sailor was also out. That night Henry had vomited, and he appeared ill and depressed during today's session.

Several days later he seemed to be much better and he discontinued treatment as he was leaving town.

Ten weeks pass, and then he returns with the story that he is now involved in a triangle. Since leaving analysis he has had two passive homosexual affairs. He has heterosexual relations with a married woman three or four times a week, but he still has the compulsion to look at men he is potent, but the woman is frigid.

He relates a dream: *"My mistress, my brother and myself are in a room. There is a platter of fruit. My mistress makes a gesture towards my brother."*

He admits jealousy of his mistress and of his brother. The husband of the mistress has tried to persuade Henry to influence her to withdraw her divorce suit.

The patient was always jealous of his brother, remembers being so during his first marriage.

After saying that he does not feel tension and finds it much easier to talk to people, he discusses more of his homosexual experiences. When he was 18 looking at sailor's buttocks caused sexual excitement. His first experience with a sailor was intertemoral. He had sexual relations with many sailors—but he always liked to have one sailor for his emotional life, for companionship.

His first marriage had been devoid of emotional life and he sought through homosexuality to satisfy the need that was not met by the ostensibly normal situation. He feared the stigmata of homosexuality and the possibility that his effeminate manner might disclose his socially-tabooed sexuality. He recognized his love for sailors as symbolic of his self love. Handsome, youthful men appealed to him. Only the other day a naval officer tried to pick him up in a theater lavatory. Henry rebuffed the advances, and realized that a year before he could not have controlled the impulse to indulge in homosexuality. He now believes that he has cured himself of the homosexual compulsion, and he is convinced that he is deeply in love with his mistress.

On a visit shortly thereafter, he reports a dream: *"My mistress shows me the mask of a woman who has no expression on her face."* He awoke with an emission. The mask was a woman's features but it evidently covered the face of a man and the latter circumstance provoked the emission. In previous free associations he had said that there is more emotional life in homosexuality than in heterosexuality.

He admits when he feels tired his thoughts revert to homosexuality. On the streets he notes attractive men and women, but his eyes follow the men. He is still jealous of his brother who flirts with Henry's mistress.

Narcotherapy (sodium amyral) was now administered, and the vividness, depth, and unreserved lucidity of his succinct comments limits the awkwardness and confusion of his presentation in many of his earlier revelations.

Dr. "What was your first homosexual experience?"

Pt. "With a boy who was five or six. He was in a vacant lot."

Dr. "What happened?"

Pt. "The boy's name was Edward; he grew up as an alcoholic; he has been dead four or five years."

Dr. "Did you have any relations with him when he grew up?"

Pt. "He associated with the underworld."

Dr. "When was your next homosexual experience?"

Pt. "Between 12 and 13. A schoolboy friend went down

on me. We experimented. He was older and he spit the semen out of the window."

Dr. "What happened next?"

Pt. "In three or four years I had mutual masturbation with Burton. Had I associated with a masculine boy I would have been different."

Dr. "Describe what you mean."

Pt. "We broke over a girl. He was 16 years old."

Dr. "When did you have your first heterosexual experience?"

Pt. "My first successful experience was with my wife. Before that I tried it with an older woman. She was ten or twelve years older. It hurt me. She was too tight."

Dr. "Tell me more about this woman."

Pt. "In later years I had intercourse with her many times."

Dr. "When did you cohabit with her last?"

Pt. "About three years ago."

At this point the session was discontinued.

Another narcotherapy session:

Dr. "What is on your mind?"

Pt. "Homosexual thoughts have been very strong today. Last night I had my mistress. I did not put on a rubber; and then, after I did put on a rubber, the erection went down. I could not regain an erection. I summoned homosexual ideas, but that did not help. I could not attain a climax."

Dr. "What else is on your mind?"

Pt. "When I look in the mirror, my eyes are not clear, they are cloudy and blood-shot and I say, 'Yes,' just as if I were conversing with someone."

Dr. "Did you have any homosexual experiences?"

Pt. "No, I went to a toilet but did not succumb to the impulse to meet anyone."

Dr. "Do you still think you have homosexual desires?"

Pt. "Yes."

Dr. "Do you still have desires to go to the Turkish bath in New York?"

Pt. "Yes, the thought occurred today. I reasoned I was not missing anything. I remember how exhausted I was. There was nothing to carry away—just mental orgies. I feel I am strong enough to restrain."

Dr. "When did your first homosexual affair begin?"

(This question is asked by way of verifying earlier replies to it.)

Pt. "It began at six or seven. I was in a tall field of weeds. I remember it was a secret field and may have been related to sexual secrecy. I also remember we set fire to a room. He put the paper in the fireplace and I remember the blaze. We used to wrestle."

Dr. "When did you have your first actual contact?"

Pt. "There were several—mutual masturbation—we both kissed the girl. He was an artist, even at 13 he painted; he was more adept at school; he was called a sissy, a mama's boy. I was also called a sissy. My penis was different. The foreskin came back all the way for the first time. I felt I was constructed differently, there was something physical. I realize now it was not physical. Then I used to sleep with a boy whose mother was the house-keeper of a _____ house. We used to suck each other off. It tasted salty. We both spit it out of the window. After his marriage we practiced mutual fellatio. He was a medical student. He feared his wife could come in. I remember getting into bed with him, taking off his pajamas. I may have put my penis between his legs."

The patient now complains of drowsiness and the session is discontinued.

On his next visit he is hypnotized. He says that when he leaves the office and sees cars, he closes his eyes to over-

come the compulsion to look at men. During heterosexual intercourse with his mistress, he visualizes sexual intercourse between a man and woman. (The homosexual component is satisfied by this fantasy.)

At another session he reports that for the past ten days he has felt worse. He has had heterosexual relations with his mistress and following them he has broken down and cried.

Once more he is interrogated after sodium amyta has been administered:

Dr. "Have you had homosexual desires?"

Pt. "Yes, that's the main difficulty. I am attracted to men, and cannot understand why I want them. It does not make sense to me. I feel as if I have lost my energy." His mistress is also interested in another man. The patient does not care, but her husband is very jealous of this other man.

Dr. "Do you have homosexual thoughts when you are with your mistress?"

Pt. "Yes, I have."

Dr. "How long have you masturbated?"

Pt. "From 14 until 24, I masturbated once or twice a week."

Henry came to the analyst a few weeks later and reported that he had broken up with his mistress. The woman had returned to her husband. The patient was not having any kind of sexual relations. He had had two wet dreams, and believed that one was definitely homosexual. He was discharged.

Five years later a friend of his reported that Henry seemed to be free from anxiety symptoms, but he knew nothing of the sort of sexual life the former patient was leading. Henry had not become reconciled to either of his former wives.

SUMMARY

The term bisexuality embraces all male and female qualities present in a given individual and therefore is more complete in clinical psychopathology than those terms which are more limited, as, e.g., hermaphroditism, which includes only organic manifestations of bisexuality. Several techniques, including history taking, free association, dream interpretation, hypnosis, and narcotherapy (sodium amyta) are marshalled and directed so that the hidden dynamics of the bisexual struggle of Henry are brought into view. The responses to interrogation while under sodium amyta limit the material afforded by other techniques, and the value of each technique is enhanced by interaction with the others. Homosexuality, marital unhappiness, depression based on anxiety, and treatment by private physician, clinic, and hospital, are on the surface of the 38-year-old patient's background. A division of the libido into warring components of homosexuality and heterosexuality since early childhood is revealed as the patient presents his emotional documentation. An easing of anxiety and a lessening of susceptibility to homosexual advances and urges are obtained during the rather few and sometimes

(*To Hypnotherapy*, P. 46)

DEPARTMENTS

HUMAN BEHAVIOUR

For this issue: J. R. SAUNDERS, M.D.

Member of the Staff of Westbrook Sanatorium, Richmond

BARBITURATE ADDICTION

MANY of us can recall when barbiturates first made their appearance in this country. In the July 19th, 1913, issue of the *Journal of the A. M. A.*, Dr. Frederick J. Farnell wrote: "There has recently been introduced in this country a new sedative and hypnotic called Luminal." It was hailed as a hypnotic and sedative of unique usefulness to psychiatrists and neurologists. Even then it was recognized that this drug was capable of producing untoward, even toxic, symptoms in some patients. Farnell's article stated that the toxic action of the drug did not manifest itself until an accumulative reaction had taken place. The accumulative and habit-forming properties of this drug still constitute difficult problems.

No one will deny the fact that phenobarbital (as well as other barbiturates) is of great value in the treatment of many diseases. One of its most valuable uses is in the treatment of idiopathic epilepsy with grand mal seizures. It is also a useful hypnotic and sedative when properly prescribed and controlled by a physician, and a physician only, who understands the effects of this drug.

The indiscriminate use of barbiturates by some physicians is bringing about a situation that is approaching the seriousness of alcoholism and perhaps opium addiction. Many physicians, it seems, do not realize that they are instrumental in causing a new type of addiction. So many of my patients have told me that it is extremely easy for them to obtain a prescription for barbiturates from a busy physician who does not take the time to evaluate his patient.

Once the patient is "hooked," as he calls it, the physician realizes too late what has happened, and in many instances he refuses to prescribe further for his patient. This state of affairs has brought about a new kind of bootlegger, and the individual who cannot obtain his barbiturates from a physician turns to this illegitimate source of supply for his "goof balls," "blue heavens," or "yellow packets."

From all reports barbiturate addiction in this country is growing by leaps and bounds. Undoubtedly the number of bootleggers of this drug is increasing proportionately. It appears that the Federal and State laws that have been enacted to control the dispensing of barbiturates are much too lax

and have done little to curb this increasing evil. Much stricter Federal and State laws are necessary, but even with strict laws we have not adequately controlled the opium traffic. Therefore, it seems that something additional will be needed to bring about the control of barbiturate addiction. Why is it not possible to induce the various drug companies who have derived great profits from the sale of barbiturates to put on an intensive educational program, dealing with the dangers of barbiturate addiction? A great many physicians, who day in and day out prescribe a great quantity of barbiturates, have no idea as to the number of barbiturate addicts in their community. Laws governing the sale of barbiturates being as lax as they are, it may well be doubted if any person has any conception of the magnitude and gravity of this problem.

Let us review some of the symptoms of barbiturate intoxication. Harris Isbell¹ and others, in their experiments with five patients for periods of 92 to 144 days, found the symptoms of chronic barbiturate intoxication to vary greatly with the individual. The most common symptoms were impairment of mental ability, confusion, decrease of emotional stability, nystagmus, dysarthria, ataxia in gait and station, and depression of the superficial abdominal reflexes. The clinical manifestations of chronic barbiturism were similar to those of chronic alcoholism. The effects of the same dose of barbiturates varied greatly in the same individual from day to day. Just as in alcoholism, food intake seems to govern this variation to a great extent.

Abstinence symptoms that develop following the abrupt withdrawal of barbiturates are, in any combination: weakness, tremor, great anxiety, anorexia, nausea and vomiting, rapid weight loss, elevation of pulse and respiratory rate, fever, increase in blood pressure, grand mal convulsions; and psychoses characterized by anxiety, agitation, insomnia, confusion, disorientation chiefly in time and place, delusions, and auditory and visual hallucinations.

It is extremely important that the public, as well as all physicians, should have brought to their attention the fact that barbiturate addiction is a serious nation-wide problem, and unless something is done to control the use of barbiturates it will become one of the most crippling addictions this country has ever witnessed.

1. HARRIS, ISBELL, et al.: Chronic Barbiturate Intoxication. *Arch. Neur. & Psych.*, 64:1-28, July, 1950.

A CASE OF RESECTION of the inferior vena cava immediately below the renal veins for suppurative thrombophlebitis is reported. The postoperative response was in no way different from similar cases in which simple ligation of the vena cava has been performed.

J. H. Collins et al., in *New Orleans Med. & Surg. Jl.*, Jan.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

MEETING THE GRAVER EMERGENCIES OF MEDICAL PRACTICE

ITERATION AND REITERATION of best means of dealing with grave emergencies of practice is always in order. Parts of what Radl¹ has to say follow.

Status asthmaticus, a condition of intense dyspnea which lasts from a few days to a week and is caused by outpouring of viscid mucus into the bronchioles, is familiar to all. There is in many cases little or no response to epinephrine or aminophylline.

The room should be made as bare as possible, all bed clothes of non-allergenic material or in plastic coverings removed and anything to which patient is known to be allergic. Give *once* epinephrine, IV, 1 c.c. dose diluted in a small amount of salt solution; if this fails to relieve, epinephrine is discontinued entirely. Try 3 1/2 grains of aminophylline, IV, which may be repeated, or 7 1/2 grains dissolved in 1000 c.c. of 5 per cent glucose, IV. Aminophylline in rectal suppository may be of value. Orally a saturated solution of KI up to 12 to 30 minims t.o.d., or ampule of Na I one gram, IV, without dilution, or added to a liter of glucose and distilled water.

For physical and mental rest, barbiturates in fairly small doses or chloral hydrate by mouth or rectum. *Opium alkaloids are contraindicated in any case of bronchial asthma.* Ether in oil, rectally, gives remarkable results in some cases, dose one oz. of the mixture to 20 lbs. of body weight. *Another good medication is an emetic dose of ipecac.*

Three to five liters of fluid daily, IV if necessary, preferably as distilled water.

If infection is not the cause, it is probably present to some degree. Penicillin or other antibiotics are to be used.

Even if there is no cyanosis, O by tent or a nasal catheter with a flow of five to seven liters per minute.

Bronchoscopic aspiration may be lifesaving.

Ephedrine used alone or with synergistic drugs often helps.

In diabetic acidosis or coma insulin is the sheet anchor. Gastric lavage at the onset. Fluid, 1 to 3 liters a day, is minimal; while in the severe stage of acidosis, saline is best and 6 to 8 liters may be necessary. Give glucose IV or subcutaneously only if the blood sugar is fairly low for diabetic acidosis, say 200 mgms. per cent.

Use regular insulin, taking into account age, degree of acidosis, and amounts of insulin administered previously, if any. Give enough within the

1. R. B. Radl, Bismarck, N. D., in *It. Lancet*, Sept.

first few hours, initial dose for adult 40 to 60 to 100 units subcutaneously, or part of it being given IV. Joslin reports average given in first three hours 210 units of regular insulin. Urine tested q. 2 h. and insulin given as needed to rid the body of ketone bodies as determined by testing the urine for acetone and diacetic acid. If an initial gastric lavage is performed instill several hundred c.c. bicarbonate solution. In the preinsulin days it was a common practice to give alkalies in a severe case. A 5 per cent solution of sodium bicarbonate, IV, or isotonic one-sixth molar sodium lactate, is still good treatment in a severe case.

Of acute gastrointestinal hemorrhage, the causes, in order of importance are: duodenal ulcer (far in the lead); gastric ulcer; gastric carcinoma; esophageal varices; Meckel's diverticulum; benign tumors of the intestinal wall; right-sided colonic cancer (usually not severe). Hemorrhage from duodenal ulcer often occurs in a patient who has had no symptoms of an ulcer. The best clinical index is b. p. readings and pulse rate every hour.

The best agent to replace blood is whole blood by transfusion. Plasma, intravenous glucose, and saline are good as emergency substitutes or as adjuncts to blood. One should not wait until the patient is in shock. Any one or a combination of the following are indications for transfusion: b. p. 100 or less; p. rate of 120 or more; hemo. of 55 per cent. Five hundred c.c. should be given in the first transfusion; if available sufficient blood to replace continued blood loss. Morphine given often. Food and liquid, except for ice chips, will not be tolerated. Sippy diet should be started in small amounts as soon as evidence indicates that hemorrhage has ceased or is minimal.

Atropine by hypo. q. 6 or 8 h., grains 1/120 to 1/150. Aluminum hydroxide gels two drams every hour or by continuous nasogastric drip in 33 1/3 per cent suspension at 15 drops per minute. Vitamin K, parenterally, and also vitamin C, which also can be given hypodermically.

The decision to operate is always a difficult one, and in many cases is made too late. Surgery, if it is to be done, should be done within 48 to 72 hours after the onset of hemorrhage.

CANCER THAT IS NOT ALWAYS PLACED IN THE CANCER CATEGORY

A. C. Broders, in *Texas Reports on Biology & Medicine*, No. 4, 1950

There are still a number of neoplasms that are cancer microscopically, some of which are capable of metastasizing, that masquerade under terms so ambiguous that even the well-informed physician would not suspect that they belong in the cancer category.

Pseudomalignant lesions, epithelial restlessness and pre-cancerous lesions may prove to be intraepidermal cancer, preinvasion cancer, convert cancer or carcinoma *in situ*, a condition in which epithelial cells and their progeny are

found in or near positions occupied by their ancestors before the ancestors underwent malignant transformation.

Bowen's disease is typical carcinoma *in situ*.

An adenoma, especially of the large intestine, may contain a carcinoma usually of a low-grade of malignancy, bronchial adenoma is always cancer, usually of a low-grade of malignancy. A polyp, especially of the large intestine is usually an adenoma either with or without carcinoma. A papilloma, especially in the thyroid, breast, ovary, kidney pelvis, ureter, urinary bladder or urethra, is practically always a cancer. Papillary cystadenoma and papillary adenoma, regardless of the situation, usually turn out to be cancer. Islet adenoma or insulinoma of the pancreas is usually a cancer as is parathyroid adenoma and both are usually of the functioning type.

The "benign" metastasizing goiter is invariably a cancer, and not infrequently of the functioning type.

"Lateral aberrant thyroid" is a metastatic lesion from a cancer of the thyroid gland and usually presents a papillary effect.

Carcinoid is always a cancer.

The mixed tumor, especially of the salivary, lachrymal and mucous glands, regardless of the slowness of its growth, almost without exception contains a cancerous element.

The dysgerminoma, comparable microscopically to the carcinoma of the testis or seminoma, although not as malignant, is always a cancer.

Arrhenoblastoma and granulosa-cell tumor, regardless of the rate of growth, are cancers that frequently function.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

EFFECT OF CERTAIN ABRASIVE MATERIALS ON TOOTH ENAMEL

Two members of the faculty of the School of Dentistry of Indiana University¹ report the results of their studies.

A wide variety of prophylactic materials and techniques are being employed in the dental office for the removal of stain and calculus. Little research has been done concerning the effect of these materials upon the enamel and dentin surfaces. It is quite possible that certain types of materials and techniques now being employed are detrimental to the tooth surface, both from excessive abrasion and resulting tooth loss and from production of a rough surface which might accumulate stain and debris more rapidly.

Much research has been done in regard to the action of dentifrices upon the tooth surface. None of these include the typical prophylactic materials and techniques commonly employed.

A polishing agent must be used after the air-brasive in order to smooth this rough surface, thereby raising the luster and making the surface less susceptible to the accumulation of stain and debris.

This is a progress report and much research remains to be done in regard to the action of these and various other prophylactic materials and techniques.

¹ L. R. Bailey & R. W. Phillips, Indianapolis, in *Jl. Dental Research*, Dec.

nics on the tooth surface. The data obtained indicate the general enamel loss to be much greater with air-brasive than with flour of pumice or fine pumice. The enamel loss, however, may not be of practical significance when the nozzle is not held close to the tooth surface and the application time is not excessive. The luster of the tooth is greatly lowered by the air-brasive, only slightly by use of flour or fine pumice. The type of surface produced by the air-brasive is different from that produced by pumice, but in all cases the original luster can be restored within 10 seconds by use of polishing agent here employed—levigated alumina.

THE EFFECT OF ZINC CHLORIDE AND POTASSIUM FERROCYANIDE AS A CAVIES PROPHYLAXIS

CLAIMS have been made that zinc chloride and potassium ferrocyanide are effective in reducing the incidence of dental caries, but the supporting evidence has not been convincing, nor have the claims been substantiated by laboratory studies or other workers. In an effort to test the hypothesis under controlled conditions, Pelton¹ conducted an investigation. At Laramie, Wyoming, 100 school children were examined during December, 1948. The children selected were continuous residents of Laramie and only those whose parents gave consent were used.

In March, 1950, the school nurse supplied the author with a list of about 100 children who had received the single application of drugs the previous years. The re-examinations were made under the same physical conditions as originally and the data recorded on new forms in the same manner as for the original examinations. At the second examination there was no record available to the examiner as to which teeth had been treated and it was not obvious that one quadrant was any "cleaner" or had more plaques than the other.

After charting the mouths the second time, the examination cards were taken to the dental office where the treatment records were made available.

A total of 10 sound deciduous teeth became carious in the *treated* quadrants as compared with five deciduous teeth in the *untreated* quadrants. While the number of teeth that became carious in both the treated and untreated quadrants is small, a conservative observation is that these data reflect no benefit to deciduous teeth by using zinc chloride and potassium ferrocyanide.

¹ W. J. Pelton, Cheyenne, in *Jl. Dental Research*, Dec.

GUMMATIVE INFILTRATION OF OESOPHAGUS MASQUERADE AS CARCINOMA

(S. O. Aylett, in *British Med. Jl.*, Dec. 30th, '50)

A man, 77, first to hospital in May, 1948, with a 5-months history of increasing difficulty in swallowing solids; felt as if food stuck at the lower end of the sternum, and frequently had regurgitated his meal almost as soon as he had taken it. No pain, denied marked loss of weight;

no relevant past history. An intelligent frail old man showing signs of loss of weight and obvious anaemia only abnormal physical sign; hgb. 58%; r.b.c. 2,830,000; w.b.c. 5,600; and Wass. + +

A barium swallow showed "undoubted carcinoma of the lower third of the oesophagus;" comparison with a film taken three months previously showed considerable extension of the disease.

Patient admitted for oesophagoscopy and biopsy, technical failure caused the procedure to be abandoned. As radical resection would not be possible in view of the frail condition of the patient, further instrumentation was not desirable. He was referred to St. Bartholomew's Hospital with a view to treatment by irradiation.

Over the next few months readmitted for oesophagoscopy. Biopsy from this area revealed no carcinoma. Patient was put on iodides, and within a short time his swallowing had improved dramatically. He now eats any food without discomfort or difficulty, and at nearly 79 years of age is in good health.

Wassermann reaction is not always positive in syphilis, and of course such a finding is a common accompaniment of carcinoma.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

WHAT CIVILIAN HOSPITALS CAN DO IN TIME OF NATIONAL CRISIS

HOSPITAL administrators, trustees and personnel have always stood ready to shoulder their responsibility in taking care of sick and injured people. In times of national catastrophe such as tornadoes, earthquakes, floods and epidemics, they have proven this beyond a shadow of doubt. Why, then, can they not render equally as efficient and profitable service to those wounded as a result of war?

The author believes that all that is necessary to be done in order that the civilian hospitals may serve this country in time of war, is for the military leaders to recognize their usefulness. In the past this has been a difficult problem. The American Hospital Association and the State hospital associations have repeatedly attempted to convince the military leaders that civilian hospitals could and would render most satisfactory service to the disabled and sick veteran. It is the belief of every hospital administrator that I have discussed the matter with, that they can provide medical and surgical services of a satisfactory quality to the military forces at a far cheaper rate than that furnished by the military authorities. On one occasion many years ago, the A. H. A. attempted to obtain from the national authorities, the cost per diem for treating the sick and wounded. As far as I have been able to ascertain, this information was not forthcoming. The reason? Your guess is as good as mine, but I believe all of us would guess the same thing. If that figure were compared with the per diem in the civilian hospitals, I am convinced that the authorities in Washington would

demand some adjustment and some arrangement for utilizing the services of civilian hospitals.

Civilian hospitals, whether large or small, are staffed by permanent residents of that community. Their reputation in the community is what they have made it and was not given to them by a military board and they were not promoted from one official grade to another by anybody except those who had sampled their wares (the patients). It is safe to state that the friends and supporters of the staff of the hospitals include a great number of those now in the military service and veterans. The writer has repeatedly heard it stated by the veterans that they wish they could stay at home and be treated. This in no way casts a reflection upon those doctors in the military hospitals, for their own patients had much rather be treated by them in the home civilian hospitals than be treated anywhere else, or by anyone else. If any legislator could see the mounting cost of medical service to the active military personnel and to the veterans, he would immediately become alarmed at the magnitude of this figure. At the rate we are now going, should it become necessary to prosecute another world war, it is evident that the final cost of sickness and disability will equal that of the cost of all the administrative government in the United States, and this will continue to grow as veterans of all the wars grow older and are in need of more medical and hospital service. These veterans would be far better satisfied to be treated at home by their own family doctor in their own community hospital and all that remains to be done in order for this wonderful service to be rendered, is for the military authorities to agree to it. How, then, can the hospital's influence the thinking of the government in regard to this matter?

No one is so sensitive to propaganda as the politician. He has won his office (usually more than one) by reading between the lines of the daily press. Therefore, it is very obvious that those interested in civilian hospitals shall make use of every agency that can help to familiarize the population at large with the fact that civilian hospitals are qualified to take care of a great number of wounded soldiers and veterans. When once sufficient propaganda has been used, the authorities in Washington will ask for a conference between the hospital associations and themselves. They do not want to be ignorant concerning this matter, especially since their constituents are so familiar with the great possibilities in the civilian hospitals. If every hospital, through its Chairman of the Board of Trustees, would communicate with its senators and representatives, there would soon be such interest aroused that great good would come out of it.

The writer of this article hopes that some local stimulation will start the thinking and spread from state to state through hospital associations and medical associations. If we but do our part, each and everyone, the opportunity for the sick and wounded soldier to be treated at home by the doctor of his own choice would surely be brought about and that is one method by which our ever-mounting taxes can be lowered.

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

EFFECT OF PITUITARY ADRENOCORTICO-TROPIC HORMONE (ACTH) ON RHEUMATIC FEVER AND RHEUMATIC CARDITIS

AN ARTICLE which appeared in the month of December¹ seems specially worthy of abstraction.

That cortisone and pituitary adrenocorticotrophic hormone (ACTH) might be useful in the treatment of rheumatic fever was first suggested by Hench et al. in May, 1949.

It is the opinion of these authors that of all symptoms and signs fever and polyarthritis came under control most rapidly. In most instances these two manifestations subsided within one or two days of therapy. Pericarditis usually diminished or disappeared within three to four days of hormonal treatment, but in three cases nine to 14 days were required for complete subsidence. With regard to one case, it should be pointed out that after the first five days of therapy exhaustion of the supply of hormone interrupted treatment for the next five days.

In four of five patients with subcutaneous nodules these shrank within seven to ten days and disappeared by the end of two to seven weeks. In one patient the nodules became smaller gradually and did not entirely disappear until three weeks after termination of therapy. Furthermore, new nodules appeared shortly afterward on both forearms distal to the olecranon processes.

The erythrocyte sedimentation rate usually was slower after one to five days of treatment and in the majority of patients reached a normal level within one to three weeks. In four patients the response was slower, and only after one to three months of therapy were normal readings observed.

Only two of the patients in this series had chorea. In the first of these, although the hormone was given for only ten days, the chorea, which had been moderately severe prior to treatment, had become mild. Thereafter and without further therapy the slight residual chorea gradually lessened and

within another three weeks completely disappeared. The second patient, recently admitted to the hospital, had moderately severe chorea of nearly one month's duration. After ten days of therapy with large doses of the hormone, the chorea was no less severe than it had been before this treatment.

Improvement in appetite and gain in weight with pituitary adrenocorticotrophic hormone therapy was frequently impressive and was often remarkably prompt. Disappearance of moderate anemia in association with other signs of improvement was likewise noticeable in a number of cases. In several patients who had a decided sinus tachycardia there was considerable slowing of the heart rate soon after treatment was begun. In addition the hormone may also have played a rôle in the improvement of one patient with paroxysmal auricular tachycardia.

The influence of pituitary adrenocorticotrophic hormone on congestive heart failure was variable.

Auscultatory signs of heart disease were present in 18 of the 20 patients in this series. In most instances the significant murmurs were due to long-standing valvular damage, and they were not influenced by pituitary adrenocorticotrophic hormone therapy. But in five cases significant murmurs, which presumably were of recent origin, regressed in association with clinical signs of improvement and finally disappeared completely within several weeks to several months. The auscultatory signs which disappeared included a moderately loud mitral systolic murmur in one instance, mitral mid-diastolic murmurs in three instances and faint to moderately intense aortic diastolic murmurs in four instances. In spite of the disappearance of some murmurs, other murmurs have given ample evidence of persistent heart disease in three of the five patients. However, two of the five patients, during a follow-up period of about 11 months, have remained entirely free of signs of residual cardiac damage.

When pituitary adrenocorticotrophic hormone was withdrawn abruptly early in the course of treatment of patients with acute rheumatic fever an almost immediate rise in temperature and return of symptoms occurred, a result that was not surprising. Of possibly greater significance was the reaction to gradual reduction in dosage and final omission of therapy. In some instances the procedure was not associated with any untoward effect. In others, however, relapses of varying severity were observed. The interesting feature of these late withdrawal reactions is that in a number of instances fever, joint pains and rise in sedimentation rate again subsided and failed to reappear even though the reduced hormone dosage was kept constant or the hormone was omitted altogether. Elevation of the sedimentation rate subsided more

1. B. Massell, M.D., and J. E. Warren, M.D., in *JL. A. M. A.*, Dec. 16th, 1950.

slowly than did the clinical manifestations of these withdrawal reactions. In general, clinical withdrawal symptoms lasted for only three to ten days, but rebound elevation of the sedimentation rate did not subside entirely for periods varying from one week to three months.

Treatment has been completed in 17 of the 18 patients with rheumatic manifestations other than chorea. Three of these cases must be considered therapeutic failures. Although the total duration of active rheumatic fever varied greatly in the remaining 14 patients, it was our impression that, on the whole, recovery took place sooner than it would have without treatment.

The apparent response of pericarditis, congestive failure and subcutaneous nodules to pituitary adrenocorticotrophic hormone in a number of patients and the complete disappearance in two patients of all significant murmurs strongly suggest that in some instances active carditis may be favorably influenced by hormone treatment. Also, there are hopeful indications that if therapy is begun early in an attack of rheumatic fever cardiac damage may be lessened or prevented.

The only harmful reactions definitely attributable to pituitary adrenocorticotrophic hormone in this series were retention of fluids with aggravation of congestive heart failure and, in one instance, serious mental depression. It is possible that in one patient with longstanding low grade rheumatic fever the degree of rheumatic activity was greater after discontinuation than prior to the administration of the hormone. One instance of fatal jugular thrombophlebitis was encountered, but as yet there is no definite reason to attribute this complication to pituitary adrenocorticotrophic hormone therapy.

SURGERY

W.M. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

POSTPHLEBITIC SYNDROME

THROMBOSIS of the ilio-femoral vein frequently is followed by the so-called postphlebitic syndrome, which is a more or less progressive process and may not manifest itself in its more serious form until some five or more years after the original thrombosis. It is a condition of chronic venostasis characterized by brawny edema, pigmentation, eczema, ulcer formation, and episodes of erysipelas and cellulitis. Once well developed, it is most refractory to treatment. In this respect, the greatest argument has centered around the treatment of the femoral vein. It is held by some that the femoral vein again becomes patent by the resolution of the thrombus or recanalization; however, its valves are permanently damaged. Such being the case, the

column of blood has no support, and the pressure of the whole column is directly transmitted to the peripheral tributaries in the leg. To offset this it is advised that the femoral vein be ligated, so as to reduce the peripheral venous pressure. This has been practiced by a number of surgeons for a period of years. The results are contradictory and difficult to evaluate.

Recent observations by De Camp and his associates cast doubt upon the soundness of this procedure. They tested the venous pressure in normal individuals and in postphlebitic patients while resting and ambulatory.

Normally the peripheral venous pressure in the leg is diminished by walking. In postphlebitic patients, it was found to be less diminished than in normal individuals and still less in postphlebitic cases in which the femoral vein had been ligated. They conclude that ligation of the femoral vein in postphlebitic cases increased the ambulatory peripheral venous pressure. On the basis of these observations, they reverse the opinion formerly held by them and conclude that deep vein ligation in these cases is not indicated except to prevent recurrence of embolic phenomena.

DECAMP, P. T., et al.: Ambulatory venous pressure determinations in postphlebitic and related syndromes. *Surgery*, Vol. 29:44-70, 1951.

PARONYCHIA

Paronychia is an infection along the edge of the nail near its base.

In most cases the infection originates from wounds caused by pulling away or biting off "hangnails." Manicuring is responsible in some cases. As a rule the surrounding tissue builds up a wall of induration and thereby localizes the infection and prohibits its spreading.

In the early stage of the infection, a diffuse inflammation without pus formation is treated with continuous hot boric soaks which will bring about resolution or the development of an abscess. Incision at this stage is contraindicated.

In the second stage a definite abscess has formed and lifting of the skin edge from the nail with a scalpel will accomplish drainage and immediate relief from pain. A small rubber dam is placed into the wound, and a hot boric fomentation applied for 24 hours to promote discharge of the residual purulent material. The bandage and drain are removed after 24 hrs. and a dry dressing applied until the lesion heals.

The third stage is reached and an incision will be necessary, if the infection has been allowed to advance around the base of the nail. Use a very sharp scalpel as the incision should be made by gliding the edge of the knife over the skin.

The final stage is that of subungual abscess. Adequate relief from pain caused by the tension can be obtained only by excising the base of the nail under Vinethene or a similar short-acting inhalation anesthetic. If the circumstances do not permit the application of a general anesthetic nerve block anesthesia (3 to 5 c.c. of a 1 to 2% solution of procaine or novocain without adrenaline). After completion of the injection allow 5 to 10 minutes for analgesia. The unaffected parts of the nail should be left in place to protect the sensitive nail bed. After the operation

wet dressings are applied for 24 hours.

Hypertrophic granulations, which occasionally appear at the site of the abscess, should be treated only with a pressure bandage.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

HELP FOR YOU IN SOLVING YOUR ALLERGY PROBLEMS

WHEAT and corn allergies are about the same in incidence (being more than to any other food). This strongly suggests that the avoidance of new sensitizations is as important as the treatment of a certain sensitization after it has occurred. In carrying out prophylactic measures Rinkel¹ has used a rotary diversified diet since 1934, the object being to prevent new sensitizations, as well as to delay or possibly control some of those existing in a mild form. The principle of this diet is to rotate and diversify foods. What this essayist says on this subject further has the appearance of being as sound as it is unusual.

The prophylaxis of allergy is most important in the young patient; therefore, the infant who presents a feeding problem, or the baby with six-months colic, or eczema and various skin rashes is a good subject for employing this measure. Foods to which the patient has been proven to be sensitive have become compatible due to strict and continuous elimination. In this latter case, Rinkel has been able to feed foods for 11 years without recurrence of sensitization.

He says not much can be done to prevent sensitizations to pollen. The child born into an allergic family should be taught to avoid deliberate, useless exposure in weed patches from August 15th until September 15th; should be advised to stay out of timothy fields during the blooming period.

Practically all allergic individuals show sensitization to feathers. The potential allergic person now may obtain a feather substitute, the glass pillow, which will permanently avoid the development of symptoms from the pillow. Children in an allergic family should not have cats or dogs. Many children become goat-hair sensitive from mohair-finished dolls and teddy bears. The Rexair vacuum sweeper will reduce the dust concentration in a room to one-fifth the amount which exists when the bag-type vacuum sweeper is used. The potentially allergic person should use cosmetics known to be free of orris root.

The best climate for a patient with asthma or hay fever is the place where he wishes to live. Not over 1 per cent of patients who travel for the relief of asthma get permanent relief.

¹ H. J. Rinkel, M.D., Kansas City, in *Jl. Mo. St. Med. Assn.*, Feb.

In the treatment of eczema formerly it was the rule to evaluate first the drugs previously used. Excipients used in the making of pills and capsules are a common cause of allergic reactions. In a series of 25 patients given vitamin C, it caused symptoms in over 60 per cent. Vitamin B preparations may precipitate symptoms. Given *vitamin B complex*, 50 patients will have their symptoms increased to one patient who states that the B complex has improved his general condition. There have been reactions from corn starch in tablets, from corn glucose in cough preparations and expectorants. The good effect of the antihistamines can be neutralized by the corn starch contained as an excipient.

This investigator has not obtained relief of asthma with most of the antihistaminic drugs. This is not of Hydryllin, which is a combination of the base benadryl with aminophyllin. Hydryllin has been dramatic in its relief of 10 per cent of the asthmatics and has been of some value in another 58 per cent. Nasal and urticarial eruptions are more benefited than is asthma. It is not uncommon for patients to treat their nasal symptoms with one of the antihistamine drugs and allow themselves to become asthmatics because an etiologic diagnosis has not been established. During the current period of interest in antihistaminic drugs, the value of older drugs may easily be overlooked. One of these combinations which has proven to be of great value is:

Ephedrine	Gr. X
Sodii phenobarbitalis	Gr. XX
Atropina sulphatis	Gr. 1/10
Antim. et potass. tartr.	Gr. 1/3
Phyllicin	Gr. LXXXII
Fac capsules	XXIV

Sig: 1 q. 4 h. p.r.n. for symptoms.

This Rx in ordinary capsules was dispensed to the patient with three other capsules. Of hay fever and asthma patients, 75 per cent preferred this Rx. The other three capsules contained: (1) ephedrine, aspirin and phenobarbital, (2) ephedrine and phenobarbital, and (3) ephedrine and aminophyllin.

Fatigue is one of the eight most prevalent symptoms of food allergy—a manifestation of a degree of sensitization not producing respiratory symptoms. Constant fatigue, due to allergy, is produced by contacts at intervals of seventy-two hours or less. When intermittent, the contacts are made just preceding the onset of symptoms and continue for two to three days.

Patients subject to frequent colds not experienced by other members of the family should be investigated as to an allergic factor. If the attacks develop on a clear background, the purulent secretions develop 36 to 48 hours after the onset of symptoms. Patients subject to recurrent colds have

been bedridden as a result of the use of cod liver oil in an attempt at cure. The same has resulted from vitamin C, from vitamin B complex and from other medication designed "to build up" the patient.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

SMOKING LUNG CANCER

THE GREAT INCREASE in the number of deaths attributed to cancer of the lung in the last 25 years suggested to Doll and Hill¹ investigation into the possible association of carcinoma of the lung with smoking, exposure to car and fuel fumes, occupation, etc. Essentials of a preliminary report on findings with regard to smoking are here reproduced.

The material was obtained from 20 hospitals in the London region which notified patients with cancer of the lung, stomach, and large bowel. Almoners then visited and interviewed each patient. The patients with carcinoma of the stomach and large bowel served for comparison and, in addition, the almoners interviewed a noncancer, control group of general hospital patients, chosen so as to be of the same sex and age as the lung-carcinoma patients; 648 men and 60 women with carcinoma of the lung were interviewed. Of the men 0.3% and of the women, 31.7% were non-smokers. The corresponding figures for the non-cancer control groups were: men 4.2%, women 53.3%.

Among the smokers a high proportion of the patients with carcinoma of the lung fell in the heavier smoking categories. For example, 26.0% of the male and 14.6% of the female lung-carcinoma patients who smoked gave as their most recent smoking habits prior to their illness the equivalent of 25 or more cigarettes a day, while only 13.5% of the male and none of the female non-cancer control patients smoked as much. Similar differences were found when comparisons were made between the maximum amounts ever smoked and the estimated total amounts smoked.

Cigarette smoking was more closely related to carcinoma of the lung than pipe smoking. No distinct association was found with inhaling.

As a whole, the lung-carcinoma patients had begun to smoke earlier and had continued for longer than the controls, but the differences were very small and not statistically significant. Rather fewer lung-carcinoma patients had given up smoking.

It is concluded that smoking is an important factor in the cause of carcinoma of the lung. The figures obtained suggest that, above the age of 45, the risk of developing the disease increases in sim-

ple proportion with the amount smoked, and that it may be 50 times as great among those who smoke 25 or more cigarettes a day as among non-smokers. The observed sex ratio among non-smokers (based, it must be stressed, on very few cases) can be readily accounted for if the true incidence among non-smokers is equal in both sexes.

It is not possible to deduce a simple time relationship between the increased consumption of tobacco and the increased number of deaths attributed to cancer of the lung. This may be because part of the increase is apparent—that is, due to improved diagnosis—but it may also be because the carcinogen in tobacco smoke is introduced into the tobacco during its cultivation or preparation. Greater changes may have taken place in the methods involved in these processes than in the amount of tobacco consumed.

A recent report² from Iceland draws attention to the rarity of lung cancer in that island. This study is based on the records of 1,940 necropsies performed in Reykjavik (1932-1948). There were 417 malignant growths in this series, 12 cases of primary lung carcinoma. This is a very much smaller proportion than is found in other comparable communities. It is pointed out that smoking, and particularly cigarette smoking, has only recently become popular in Iceland on a scale at all resembling that in most European countries.

2. Editorial in *British Med. J.*, Sept. 30th.

HEAD INJURY IN THE CHILD

The child whose head is bumped or otherwise injured should be carefully watched for: 1. A period of apparently normal behavior. 2. later development of stupor or coma or convulsions, fever, dilatation of one pupil, any of which indicate that an extradural brain hemorrhage is developing. Immediate neurosurgery is needed, with removal of the clot, if a 50 per cent death rate is to be prevented. Barnes Woodhall, M.D., in *Southern Med. J.*

DIGESTIVE UPSET DUE TO RENAL DISEASE

The sole manifestation of an obstructive renal syndrome may be a digestive upset (indigestion, flatulence, belching, nausea). The kidneys and the intestinal tract have a common nerve supply. Urinalysis may be normal. Many serious urologic lesions may exist and urine examination disclose nothing abnormal.—Henline, *South. Med. J.*

HYPNOTHERAPY—From P. 38

widely-separated sessions. An indirect—but reasonably reliable—source indicates that after five years the gains are generally maintained.

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—1500 New Hampshire Avenue, N.W.

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INTERNAL MEDICINE

GEORGE R. WILKINSON, M.D., *Editor*, Greenville, S. C.

OBSERVATION, ITS MEANING AND IMPORTANCE

WE CAN indeed improve our observation by external means, but far transcending these in importance is the power we possess of improving our own internal mechanism by its exercise and by the storing of memories. The physical basis of memory is only a path along which messages can flow more freely so that our observations move along well-worn channels with a minimum resistance and a maximum effect. But the mere casual accumulation of memories is not enough: they must be accurate; they must be connected; and they must be arranged in coherent groups.

How pitiable must be the mind which is not powerfully impressed with this opening paragraph of an essay by an eminent British doctor.¹

The essayist goes on to illustrate and elaborate.

A physician is standing by a child's bedside; his fingers are on its wrist. He feels the dry hot skin. He notes the racing pulse and estimates its power, its quality, its regularity. He sees the flushed face with its tinge of blue; he sees the nose expanding at each quick intake; he hears the hurried respiration and characteristic grunt. And he knows with a certainty which nothing but direct clinical observation can give, which sweeps away irrelevant detail and grasps the one essential fact, that he is faced with a case of acute pneumonia.

If observation is of such importance can we by any means develop and improve it? As regards the primary organs of sensation—our touch corpuscles, our taste buds, our ears, our eyes—we have little, if any, power of modifying them. But in the higher centers of reception and coördination we have very great powers of development. Touch can be developed to distinguish variations of thickness of a thousandth of an inch; the trained musician can perceive variations in pitch which most of us could not distinguish. We can, in fact, in every field develop our power of primary perception.

Of far greater importance is our immense capacity for developing the combination of primary perceptions, for every observation we make has two aspects. On the one hand its charter and its value depend on a vast train of preceding observations reaching back to our earliest infancy. On the other hand it leaves behind an impress which will affect every fresh observation we make into the distant future. Every observation is a conditioned reflex. By our observation and our memories we create new worlds for ourselves through which we can wander at our pleasure. The historian can live

in the past; the musician can explore the limitless world of sound, of balanced periods, and of subtle harmonies; the mathematician can explore all the vast fields of space and time—perhaps like Newton, "forever voyaging alone through undiscovered fields of space."

The world of observation is a wonderful world, limitless in its possibilities, absorbing in its vast opportunities. And yet if we are really to enter it and to enjoy it to the full we must carry with us a spirit that seems its very contradiction—the spirit of adventure, of freedom from the restraint imposed by experience, the happy irresponsible spirit of a child. For there is another world which we may well envy, which perhaps only a child can enjoy in all the wonder of freedom, untrammeled by the bounds of convention, limitless in its imagination, inhabited by strange and delightful monsters and by fairies who sweep away all difficulties with the wave of a magic wand. Is their world the real one, or is ours?

To add comment would be but to attempt to paint the lily, or gild refined gold.

DEFECTIVE HEARING

(From Editorial in *Wisconsin Med. Jl.*, July)

The sooner the impairment in hearing is discovered the better. There are certain signs that should make one suspicious at the age of a year or 18 months. Children who are profoundly deaf do not sit up or walk as early as other children; they are not disturbed by noises.

Since it is not possible to check systematically on the pre-school child, it is imperative that we examine the child in school to discover any impairment in hearing.

It is necessary that full cooperation be obtained from doctors, public health officials, Parent and Teachers Associations and other civic organizations in a given community.

In 1947-1948 under this program 8,555 children were examined; in 1948-1949—45,598; 1949-1950, it is estimated 150,000 children will be examined.

All children who are found to have impairment of hearing are referred to an otologist or special clinics.

The follow-up work is done by either the school health nurse or the county health nurse. The advice as to treatment which these children receive has been followed in 95 per cent of the cases.

IMPROVED RESULTS IN BRUCELLOSIS

(W. E. Herrell and T. E. Barker, Rochester, Minn., in *Jl. A. M. A.*, Oct. 14th)

A total of 25 patients with brucellosis proved by culture has been treated by the simultaneous use of aureomycin hydrochloride, 3 Gm., per day (in 4 doses) by mouth, and dihydrostreptomycin sulph., 1 Gm. b. i. d. Ten more acutely ill with unmistakable evidence, but blood not positive, were so treated.

The course lasted 12 to 14 days.

In these 35 cases there was one symptomatic but not one bacteriologic relapse. The follow-up has been 3 to 10 months.

Mrs. Jones: "How long was your last cook with you?"

Mrs. Smith: "She was never with us. She was against us from the start."

PRESIDENT'S PAGE

BY THE TIME you have this article, I shall have passed the gavel on to my successor. As the closing days of my administration, as your President, draw near, I feel that you should know something of my activities during my term of office. The matters that weighed heaviest on my heart and soul were first, the matter of membership, next, the matter of good will and fellowship among the members and finally the annual meetings.

I asked myself what the President could do to increase the membership. It was obvious from studying the records that, although we have some 6,000 doctors in the three states, we do not have our share for members. Our membership at that time was around 700. I, therefore, drafted a letter to the 175 members who had dropped out during the last three years. In this letter, I invited them to rejoin the association and enjoy its privileges and fellowship. I reminded them of the fact that in the Tri-State Medical Association they would find the most democratic organization that it is possible to operate. I sincerely hope that many of these former members have rejoined and if they have I hope we will be so cordial, so co-operative, and so considerate that they will feel so much at home and so congenial with the other members that they will not again withdraw. I was so much encouraged by the support of the executive council for trying to increase the membership, that I drafted a second letter to be sent to every doctor in the three states. A copy of this letter was mailed to each member of the executive council and their approval or disapproval requested. About one-half of them that replied felt that we were going a little too far in trying to gain new members. This letter, therefore, was never mailed; perhaps my successor will make a similar effort along that line, if the opinion of the executive council changes. I knew of no better way to increase the interest in the Association than to boost the good fellowship that exists among those who belong to the Tri-State Medical Association. Therefore, in every letter that I wrote, I emphasized this characteristic among our membership. I further sought to point out that the wives and families of the members enjoy knowing the families of the other members. I am quite sure that this is true and I am equally certain that it is most wholesome for not only the members to fraternize and enjoy one another's company but also for their wives and families.

I was most surprised when I reviewed the attendance at the annual meetings. For one reason or another, it seems that it got smaller every year. I was most hopeful that something could be done about this. I suggest that in the future, in order that everyone may know what the attendance of the membership is, that it be published in the next issue of the Journal following the meeting, which would be the March issue.

The way to increase the attendance at the annual meeting occurred to me, was to first give the meeting an enormous amount of advertisement and publicity. Therefore, in every letter that went out from the President's office, we called attention to the annual meeting. Every officer of the Virginia, North Carolina and South Carolina Medical Societies has received a personal invitation from your President, whether he is a member of the organization or not, to attend the annual meeting this year in Columbia. He was told that he would be welcome and that the floor would be open for visitors to discuss the papers. I have had numerous nice letters in response. Many of these leaders expect to attend. Each medical journal of the three states has been asked to carry a notice of the meeting in their December or January issue and I think that this has been done. The Presidents of the various state asso-

ciations have been requested to announce at any meetings over which they preside, that the Tri-State Medical Association will meet in Columbia, S. C., February 19th and 20th. The Secretary has been requested to mail the programs out not later than February 3rd, and he was also requested to send the leading newspapers of the three states a copy of the program requesting them to give publicity to this meeting in their paper.

Since our membership is composed largely of private practitioners, it is only fair and reasonable, therefore, that the majority of the program be put on by them, and yet we must recognize the fact that we have in the District six good medical colleges. The faculties of these colleges have rich stores of knowledge upon which the private practitioner should draw if he is to keep abreast of the times in medical problems both within and without his own individual field. Therefore, the program committee, under the able direction of Dr. W. R. Wallace, have seen to it that the faculties of all of the medical schools had an opportunity to be represented on the program if they so desired. The presentation of the program could be made much more attractive if those appearing on it would limit their papers to twenty minutes and those discussing same would limit theirs to five minutes. This will mean that each essayist will receive the proper time for his presentation. In order to help with this, there will be sent out from the President's office, a letter to every man on the program, requesting him to make his paper concise enough to fall within the twenty-minute period. I hope that this will help keep the program on time.

I have repeatedly called attention that private practitioners, each day that they practice, learn something valuable to every other doctor in practice. Therefore, doctors who seldom find time to go to medical meetings should attend the meetings of the Tri-State Medical Association, appear on the program with their valuable practical discoveries. We all learn from listening, but how can we listen if those who know refuse to talk?

As this, my last President's Page, goes to press, I wish to take this opportunity to thank the members of the Association for electing me as their President. I wish further to pledge my continued support and coöperation with the succeeding officers as they come and go. I hope I have been of some assistance to the Association—to each individual member. I value most highly my professional friends in the Association, and for their ethical, friendly and coöperative conduct and friendship, I am most grateful.

R. B. Davis.

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

CASTRATION AND SEX CRIMES

SEX CRIME and sex criminals have become front-page news all over the nation. Such crimes are receiving more publicity than formerly and the criminal has become more degenerate and fiendish. Very little has been offered for the control of such crimes. Most of our psychologists and psychiatrists say there is little, if anything, that can be done for the confirmed sex criminal.

The results of a research project in the State Training School at Winfield, Kansas, for the past nine years are presented and discussed.¹ Our castrations were started in the hope that castration might help control masturbation and pervert sexual acts. The first case was done in March, 1894. The father of the patient, aged 22, and the family physician were present and agreed to the operation which was done by the family physician. There were 11 done the first year. This became the big political issue at the next election as a result of which the party in power was defeated and there was a change of administration at the school. Two years later the Populists again went into power and Dr. Pilcher was back as superintendent. We do not know how many cases he operated on: a fire in 1904 destroyed the main office building and many of the records. In 1908 15 castrates were still in the institution. Some had died, several paroled. At the present time we still have eight of these original castrates in the institution.

We have available for study 330 cases of castration, the only group, at least in this country, which is available or which has been studied.

Most of our patients are in a feeble-minded group who have no one sufficiently interested to direct and supervise them on parole so will remain in the institution. However, a good many have been paroled and are no longer a social menace. Those still in the institution are not a menace to society when they are on short paroles or A. W. O. L. We have never had a sex crime committed by a paroled or escaped castrate.

Many of these individuals do detail work around the institution, on the farm, dairy barn, laundry, etc. They are much more reliable and do not require the constant supervision required before operation.

The problem of the defective delinquent is one which causes great concern in every feeble-minded institution. One in five belongs to this defective delinquent group. It is from this group of defective delinquents that we draw our group to be castrated.

The study of our castrates bears out that they are not subject to the male predominant diseases.

¹ C. C. Hawke, M.D., Medical Director, State Training School, Winfield, Kans., in *Jl. Kans. Med. Soc.*, Oct.

Of those who were castrated over 50 years ago, six times as many are living today as in the non-castrate group who were in the institution at that time.

Dr. Paul White and associates did research work in the institution for two weeks of the past summer, and his new book on the heart will say that castrates are not subject to the degenerative diseases of the cardiovascular system. From our observations we do not believe that castration has any effect on the liability to any mental breakdown; nor do we believe that castration will decrease the number of epileptic attacks. The castrate does not tend to become obese, sluggish or lazy, or bald. In our cases where they have some baldness before operation it does not progress.

Castration is not followed *per se* by sexual incapacitation. We have discharged some who had been castrated and are now married and carry on satisfactory sexual relations. However, they have lost their excessive sex urge and exhibitionism and are stabilized to the point where they are no longer potential sex criminals. The argument has been given that these individuals would become sullen, morose and vicious unless they had an emotional outlet in masturbation which makes them more quiet and easier to control. Our experience is exactly the opposite.

We have received a number of admissions in the past solely for the purpose of castration, persons who had attempted rape, or made sexual advances to their sisters, stepmothers, etc. They had become serious sex problems at home, and either by request of the parents or insistence on the part of neighbors or the law they were committed to our institution for operation. After operation we keep them for a few weeks, then send them home. There is no record of any sex crime committed by one of our castrates.

Following the Pilcher castrations the Kansas legislature in 1917 passed a law allowing asexualizations which has been determined by the court to mean either oophorectomy or orchidectomy. It was the testimony of those connected with the institution in regard to the improvement shown by the Pilcher castrates that secured the passing of this law. The law was last changed in 1928 and it is under this law that we now operate. The procedure is as follows:

From our own observation and from the reports of the supervisors a list of candidates is prepared. These individuals are given a physical examination to determine fitness for operation and the type of operation to be advised.

The patient and the guardian or parents of the individual are advised 30 days in advance that the Board (consisting of the medical director of the institution, the secretary of the State Board of

Health, and the three members of the State Social Welfare Board under whose control the institution functions) will meet at Winfield on a certain date to consider the sterilization of this individual, and they may appear before the Board to make any protest they wish at that time.

On the day set the Board meets and the individual is presented. The ward supervisor and medical director offer testimony and recommendations and the protests, if any, are heard. Following this the Board renders a decision which is final and mandatory. Protests are rare and are usually cleared up before the meeting.

We have found that castration improves the sex criminal sociologically in that he usually refrains from further anti-social acts and becomes an acceptable member of society. Psychologically he is stabilized, does not suffer any mental deterioration, and while he may have a moderate inferiority complex this is favorably balanced by his social improvement. Physically, he is a better organism.

Before I knew any of this group, my conception of a castrate was a fat, sluggish eunuch waving a palm leaf fan in a Turkish harem surrounded by feminine charm and temptation to which he was unable to yield. Such is not the case. He is a quiet, industrious individual in good health, filling a place in Nature's program which has been made easier by a simple surgical procedure.

HYPERCHOLESTEREMIA AND ARTERIOSCLEROSIS

MUCH has been written on the relationship between an excess of cholesterol in the blood and arterial disease. What a Bostonian¹ says will serve to clear up some of the obscurities.

Cholesterol is supplied by food and by synthesis in the organs, primarily in the liver. Endogenous cholesterol is synthesized from all food types. Hence, the restriction of any one kind of food cannot prevent formation of cholesterol.

No enzyme of the intermediary metabolism of animals has been found which is capable of splitting the sterol skeleton. According to present knowledge, cholesterol destruction is accomplished in animals only by means of intestinal bacteria.

Cholesterol absorption is facilitated by the presence of neutral fat in the intestines. Man absorbs mainly cholesterol of animal origin. Herbivorous absorb both animal and vegetable cholesterol but are unable to excrete animal sterols. Animal cholesterol is retained and hypercholesterolemia develops. Herbivorous animals, therefore, should not be used for comparative experiments of cholesterol metabolism.

Cholesterol is excreted with the bile and directly into the intestines.

¹ S. J. Thannhauser, Boston, in *J. Mt. Sinai Hosp.*, 17:79, 1950.

An abnormal accumulation of cholesterol in the serum, cells, or tissues occurs by means of one of three possible mechanisms.

1) Cholesterol infiltration into the cells. This process has a prerequisite, hypercholesterolemia, which may be the result of either an imbalance of cholesterol synthesis and excretion, or an increase in neutral fat in the serum.

2) Increased cholesterol synthesis within certain cells. The blood cholesterol is normal.

3) Extracellular precipitation of cholesterol, a result of local changes in the physical properties of the tissue.

It has been assumed that cholesterol accumulation in the arterial intima, as observed in familial hypercholesterolemic xanthomatosis, is the first phase of arteriosclerosis. This investigator believes that arteriosclerosis has no primary etiologic connection with cholesterol metabolism.

Clinical features of premature development of arteriosclerosis are not found in patients with familial hypercholesterolemic xanthomatosis. Coronary involvement is not presumptive of arteriosclerosis and may occur in several vascular diseases. The cholesterol content of sera of patients with arteriosclerosis is usually normal.

Arteriosclerosis is a disorder affecting the elastic structures and ground substance of the vascular wall. The precipitation of cholesterol is a secondary process caused by the physical properties of the altered tissue. The cause of this alteration is unknown.

Wear and tear processes, dependent upon constitutional hereditary factors, and diminished oxygen supply from changes in the vasa vasorum have been postulated as factors involved in this disease. Arteriosclerosis occurs with diabetes, probably as a result of the noxious influence of abnormal carbohydrate metabolism.

Familial hypercholesterolemia is due to a disturbance of cholesterol formation and excretion. The atheroma of the arterial intima found in this disease is a localized process similar to that of the skin xanthoma. Both processes result from cholesterol infiltration into the cells from the high cholesterol content of the serum.

Restriction of cholesterol intake will not basically influence the development of arteriosclerosis, since this physiologic process is independent of the cholesterol content of the serum. Cholesterol restriction is, however, desirable in familial hypercholesterolemia, because the basis for the abnormal accumulation of serum cholesterol is a metabolic imbalance of cholesterol synthesis and excretion.

BL ON ALLEN FOR EARLY SIGNS OF MULTIPLE SCLEROSIS (D. K. Adams et al., in *British Med. J.*, Aug. 19th)

We would like to stress the conception that in its early stages disseminated sclerosis is a functional nervous dis-

order. Experience has shown that certain signs depend, commonly on the destruction of particular parts of the nervous system. It must be appreciated, however, that these are, *per se*, signs of deranged function. In the early stages of disseminated sclerosis they may not be proof of irreversible changes in the central nervous system. Since it is perhaps only at this stage that complete cure can be hoped for, the disastrous policy of waiting for multiple signs and symptoms to become apparent is at once obvious.

SOUND SENSE AS TO TREATMENT IN EMOTIONAL ILLNESS

"A GREAT MANY psychiatrists' theories and ideas are not only confusing to those of you who are onlookers, but are confusing as well to psychiatrists themselves." That is not my sentence. Note the quotation marks. Those are the words of a psychiatrist,¹ who goes on to say much more in the same vein.

We have a great many theories in psychiatry; none of them are proved; all are being tested. We do not know the cause of mental illness. We have many useful speculations; but we also have a great number of differences as to the meaning of these speculations, none of which is proved. There is very little correlation in the various schools of thought, although there is a great deal of bickering and considerable name-calling between these various groups.

Now what we are trying to do for these patients? We are trying to relieve them of their discomforts. It does not matter whether these discomforts consist of emotional tensions, confusions, disorders of thinking, or pain without organic basis. Uncomfortable people come to physicians for help; it is our duty to give it to them.

If we do not know the cause of a patient's reaction, we can at least study its meaning, always bearing in mind that it is a reaction to something. A study of the meaning of the patient's reaction can and does frequently help the patient to find better, more useful, more socially acceptable techniques for meeting his problems. A study of the meaning of what the patient is trying to express through his reactions may enable him to find some solution to his conflicts, either a partial solution, by compromise, or a complete solution by dissolution of the conflict itself.

First find out how, when, where, and why the thinking and the behavior of this individual went astray, and what factors within him stand in the way of normal thinking.

In our treatment, therefore, let us go back to the time of William A. White, and reintegrate ourselves, using sound biologic knowledge that was accumulated by him and has been added to since by many others. This knowledge is available in easy, readable form and it does leave us with a sound

¹ L. H. M. Murdoch, M.D., *Proc. Roy. Soc. Med.*, 43, 1950.

basis as to what life is about, what the human organism seems to be reacting to, how he seems to be reacting, and the general laws which govern the responses of all organic creation.

The next step is to listen to what the patient has to say and watch what the patient is doing. This is not something which requires great psychiatric skill or training. A great deal of the best psychiatry is being done, has always been done, by general practitioners. Listening and watching does involve patience and time. There are some few to whom enough time can be given for the patient to get an honest hearing. If that and nothing more is done, then the practice of psychiatry by the general practitioner will be tremendously improved.

Every contact of every doctor with every patient constitutes a therapeutic relationship, not confined to the cut finger or the sore throat. What we say and what we do is not nearly so important as giving the patient ample opportunity not only to air his problems, but to vent in a safe place—the physician's office—a good many of his feelings; to express dissatisfactions, resentments, and other emotions that he does not feel safe in expressing anywhere else. If the physician simply listens kindly, has a desire to be helpful, is not frightened by what the patient says or does, is not impatient, most of all is not going to try to play God—by doing only that, he will give the patient more than he is likely to get from anyone else.

When the time comes that the emotionally upset patient develops confidence in his physician as a physician, he finds himself thinking and saying things he has not previously brought up to himself, or to anyone else, experiencing long-forgotten exaggerations of feeling and emotional tension, and he finds that these things somehow do seem to be relevant. They can be tied in to his problems and, if given an opportunity, he himself will tie them in, so that eventually some understandable, if not logical, pattern develops.

The only secret in psychiatric treatment, then, is the fact that the patient, if given an opportunity, may cure himself. The doctor does not talk him out of his symptoms. He allows the patient to talk himself out of them by being able to examine all aspects, all facets, of the situation in which he finds himself. The patient gradually comes to realize that he is still reacting to the still-unsettled emotional storms he experienced or had to stifle or to hide during forgotten, distorted, half-understood, long-buried times of stress. And he experiences again, through the physician, the love and trust, but also the resentment and bitterness, he felt then. The patient gradually arrives at an awareness of the fact that he has fallen into certain habitual reactive patterns to these things which he is frequently using inappropriately, or which, for one

reason or another simply do not work any longer—if they ever did. An occasional question from the physician, or an occasional suggestion as to why he didn't try this, that, or the other thing in such and such a situation may open up new fields and may give the patient confidence enough in himself so that he will try them. If he does so and if he has a few successes, life begins to open up new possibilities for him. The important thing in the whole process is the relationship which exists between the physician and the patient.

Every physician builds up his own technic, improves upon it with experience, learns to vary it in accordance with his own personality assets and the needs of different patients.

When we can, we will manipulate their environment to relieve them of unusual stresses. We will provide emotional support during the period of insecurity. We will often help him to find new or enlarged interests and hobbies, perhaps start him in the direction of an expanded philosophy of life.

"With most individuals I see no point in trying to bring about some sort of sweeping personality reorganization which will leave that patient without conflicts and in some sort of perfect emotional balance. I do not believe that any such procedure is possible; I am not at all sure it is desirable. My own ideas of what is right, proper, and desirable may be all right for me, but that does not mean that they are right, useful, or desirable for anyone else. Let us then respect the right of the individual to be as he is and confine our efforts as closely as we can to try to meet the purpose for which the patient came to the doctor, that is, to be relieved of discomfort."

"UNJUSTIFIED COST THE BIG REASON MEDICINE IS FIGHTING FOR ITS LIFE"

A PYRRHIC VICTORY is a victory or success gained at too great cost. Pyrrhus, king of Epirus, after his victory over the Romans at Asculum (279 B.C.) in gaining which he lost a large part of his army, uttered the words which were quoted by every schoolchild 50 years ago: "One more such victory, and we are utterly undone."

Darnell¹ calls this to attention as an apt illustration of the folly of subjecting patients to expense beyond that holding out reasonable promise of reasonable return on investment.

The array of laboratory studies performed on the 15,000 in- and out-patients of a 176-bed hospital in 1948 reflects the dexterity of the technicians and the zeal of the attending physicians. In view of the cost to the patient, it behooves the physician to choose wisely the laboratory procedures he orders, lest the successful diagnosis of his

¹ L. M. C. Darnell, M.D., Lexington, in *Jt. Ky. Med. Assn.*, Feb.

disease represent to the patient a Pyrrhic victory.

The physician's duty is, when possible, to restore his patient to active and productive life. Physical recovery may be delayed or negated by economic crippling, or by anxiety engendered by high cost of diagnostic procedures. In justice to his patients, the physician should first make use of the simple and inexpensive tests.

In the use of the laboratory the physician should suspect a diagnosis, screen for it as cheaply, and confirm it as directly, as possible. He should scrutinize the result for possible errors, and should interpret the result into action. All the while he should consider the cost to the patient in terms of the value of the information yielded.

The physician who himself routinely performs and interprets a few simple and reliable tests of wide application can be secure in his diagnosis in the majority of cases. He can also more intelligently plan the use of more elaborate methods when they are needed.

Dr. M. L. Barnes, Louisville (in discussing this paper): Consider always the cost to the patient—*unjustified expense and charges are the big reason. American medicine is now fighting for its life.*

Readers of this journal will not need to be reminded that this has been our plaint for 20 years: repeated in our very last issue.

RAPID TRANSFORMATION OF CRETINS WITH LARGE DOSES OF THYROID

(E. F. Brown, M.D., Ashland, Ore., in *Northwest Medicine*, Jan.)

Two cretins, treated by many physicians with $\frac{1}{4}$ and $\frac{1}{2}$ grain desiccated thyroid substance, made little mental and physical progress over a period of many months. Given 2 to 4 grains daily, gratifying transformations mentally and physically were noted in a short time.

Proof is presented that large doses of thyroid enable the cretin to regain some of his lost growth, heretofore a controversial point.

Toxic symptoms, which should be differentiated from dangerous symptoms, may be produced by an optimal dose of thyroid. The physician must take the responsibility of prescribing this large optimal dose, if he can see the child at frequent intervals. To give less is to deprive the cretin of his only chance for full mental and physical development.

RESULTS OF DRUG THERAPY IN MULTIPLE SCLEROSIS STILL FAR FROM SATISFACTORY

(G. A. Schumacher, New York, in *J. A. M. A.*, Aug. 5th)

In summary of the drug treatment of multiple sclerosis, the outlook for cure of the disease by use of drugs is unpromising and the outlook for symptomatic relief by drugs is less optimistic than would appear from the large number of reports which make claims of favorable effects. The claims for any type of drug therapy would seem in many instances to be unwarranted. In general the studies are insufficiently documented, and both rationale and conclusions are based on insufficient precise scientific data. Conflicting and incompatible data with resultant apposing theories appear in the works of different, and even the same, investigators.

ASTHMA COMMON IN INFANCY
(W. P. Buffam, Providence, in *R. I. Med. J.*, Sept.)

An analysis is made of the records of 49 infants with asthma seen before the age of two years.

Positive Scratch Test to Foods		
	Listed in order of frequency	Accompanied by well demonstrated clinical sensitivity
Egg	18	10
Potato	11	2
Beef	10	2
Spinach	9	4
Wheat	7	5
Chicken	7	0
Fish	7	4
Orange	7	5
Corn	7	0
Pork	6	1
Peanuts	6	0
Lamb	5	2
Milk	3	3

The striking point in these tables is that milk is a common cause of clinical sensitivity and an uncommon cause of positive scratch tests.

Inhalant allergens which are considered important in the individual case, and house dust and its producers and collectors are eliminated as far as possible.

Injections are given with extracts of all the inhalants which are thought to be of clinical importance. The dilution used at the start is not stronger than the weakest which will give a positive intracutaneous test. The intervals are usually one week for four injections and then are lengthened to two, three or four weeks.

Some patients are treated with courses of penicillin or aureomycin. A few patients have been given sulfadiazine for a period of months with good results. Penicillin and aureomycin are now being tried on a few patients in daily doses for long periods.

Foods which by scratch skin test give large wheals with pseudopods and foods which are known to cause clinical allergic reactions are kept out of the diet. Other food allergies are sought for by provocative diet tests, in which the babies are put on a restricted diet, and then other foods are added one at a time, at intervals of four days. Particular pains are taken to test carefully for milk sensitivity.

Asthma in infancy tends to become severe and should be treated promptly and persistently. The more severe cases show many sensitivities both to inhalants and food. The less severe cases probably have many sensitivities but these are less easily demonstrable.

Treatment by avoidance or injection or both should be as complete as possible, and infections should be treated, especially with the antibiotics. Treatment is more difficult than in older children, but the results in the long run are good, considering that many of these cases would become much more if neglected.

TWO OF THE 15 RECOMMENDATIONS OF WORLD HEALTH ORGANIZATION'S CARIBBEAN RABIES CONFERENCE AS MEANS OF RABIES CONTROL IN THAT AREA ARE:

A well-educated campaign for the reduction of wild-life populations (especially mongooses and blood-lapping bats) to a point that such populations are no longer reservoirs of rabies.

All dogs bitten by a known rabid animal be destroyed immediately or confined under clinical observation for a period of at least four months (a period of six months is considered preferable).

NEWS

BRODIE C. NALLE LECTURE

The second Brodie C. Nalle Lecture, sponsored by The Nalle Clinic Foundation, will be presented at the Hotel Charlotte on Friday, April 27th, 1951, at 8 P. M. The speaker will be Dr. Samuel A. Cosgrove of Jersey City, New Jersey.

Dr. Cosgrove has been Director of the Obstetrical Service of the Jersey City Medical Center for over thirty years, and for the past twenty years has been Medical Director of the Margaret Hague Maternity Hospital. He is a Fellow of the American Medical Association, the American Gynecological Society, and the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, also being a past president of this organization. He is also a Fellow and Governor of the American College of Surgeons, Diplomate of the American Board of Obstetrics and Gynecology, and Clinical Professor of Obstetrics, Faculty of Medicine, Columbia University.

Dr. Cosgrove's subject for the Brodie C. Nalle Lecture will be "The Clinical Management of Toxemia of Pregnancy." As he has a reputation of being an excellent teacher and lecturer, this presentation should be of great value to those physicians concerned with prenatal care. All interested physicians are cordially invited to attend.

SURGEONS FROM NATION'S FOREMOST MEDICAL SCHOOLS AT DUKE FEBRUARY 8TH-10TH

This was the 12th annual meeting of the Society of University Surgeons. Some 150 members of the society representing 25 medical schools attended the sessions. Membership in the group, which includes only 200 American surgeons, is limited to men of high academic rank in teaching institutions.

Subjects discussed covered a wide range—hypertension, neuritis, cancer, ulcers, skin-grafting, burns and wounds, anesthesia and a host of other conditions and their surgical applications. Twenty-five papers on the opening day were presented by Duke physicians, surgeons and scientists. Dr. Hart presided over the morning, Dr. Clarence E. Gardner, Jr., professor of surgery, over the afternoon meeting. Presiding officers for the Friday morning and afternoon and Saturday sessions were Dr. Joseph W. Beard, professor of experimental surgery; Dr. Kenneth Pickrell, professor of plastic surgery; and Dr. Keith S. Grimson, professor of surgery. All five are members of the society.

Featured speaker at the group's annual dinner meeting Friday night was Dr. Jean Stevenson, of Cincinnati, president of the society.

Institutions represented at the meeting: California, Johns Hopkins, Duke, Vanderbilt, Albany Medical Center, Cincinnati, Harvard, Illinois, Michigan, Emory, Washington, Cornell, Stanford, Virginia, Yale, Rochester, Tulane, Kansas, Chicago, Pennsylvania, Minnesota, Columbia, Iowa, and Ohio State.

Mr. David A. Barnes, 25, graduate of Duke Hospital Program in Hospital Administration, will become administrative assistant of the Mayo Clinic at Rochester, Minn., on Feb. 15th.

Mr. Barnes received the A.B. degree at Duke in 1949 and immediately thereafter entered the training program at Duke Hospital. He served as a hospital corpsman with the U. S. Navy from 1943-46. He is the son of Dr. A. R. Barnes of the Mayo Clinic and is a native of Rochester.

DEPARTMENT OF MEDICINE, UNIVERSITY OF VIRGINIA, Charlottesville

A new Department of Microbiology has been established, which will be responsible for instruction and research in infectious diseases and will cover the sciences of bacteriology, virology, mycology, immunology and immunochemistry.

Dr. Alto E. Feller, Associate Professor of Preventive Medicine at Western Reserve University, has been appointed Professor and Chairman of the Department of Microbiology.

Dr. Edward R. Cawley, Assistant Professor of Dermatology and Syphilology at the University of Michigan, has been appointed Professor and Chairman of the Department of Dermatology and Syphilology, to succeed Dr. Dudley C. Smith, who died August 30th.

Dr. Clayton E. Wheeler, Instructor at the University of Michigan, has been appointed Assistant Professor of Dermatology and Syphilology. He succeeds Dr. R. C. Thompson, who resigned Jan. 1st to enter practice at Chattanooga, Tenn.

Dr. Richard J. Ackart, Assistant Director of the Johns Hopkins Hospital, has been appointed Director of the University of Virginia Hospital, effective Feb. 1st.

Dr. Herbert W. Park, formerly a Baruch Fellow in Physical Medicine, has been appointed Assistant Professor of Physical Medicine. He will serve as medical director of the Woodrow Wilson Rehabilitation Center and director of physical medicine at the University of Virginia Hospital.

The Conference on the Use of ACTH and Cortisone held Jan. 19th was participated in by 140 physicians from Virginia as representatives of their local hospitals or county medical societies.

The Conference was organized under the direction of Dr. William Parson, Professor of Internal Medicine. Dr. Charles A. Ragan, Associate Professor of Medicine, College of Physicians and Surgeons, Columbia University, was the guest lecturer.

MEDICAL COLLEGE OF VIRGINIA Richmond

At its Commencement in June the College will confer upon State Senator Lloyd C. Bird, a graduate of its School of Pharmacy, the honorary degree of Doctor of Laws. Miss Nora Spencer Hamner, a graduate of its School of Nursing, will receive the honorary degree of Master of Science in Nursing. Both have made wide contributions to education and to science in the community and the Commonwealth.

The Forty-fifth General Hospital, sponsored by the College in World Wars I and II, has been reorganized and becomes an Organized Reserve Training Unit in the Virginia Military District. Colonel John Powell Williams, Professor of Clinical Medicine, and Chief of the Medical Service at McGuire Veterans Hospital, will be in command.

Miss Loures Pottinger has been appointed Director of Nursing Service and Associate Professor of Nursing, re-

placing Miss Margaret Denniston, who resigned January 8th.

Dr. Frederick M. Salisbury joined the faculty on February 1st as Assistant Professor of Denture Prosthesis.

A splendid attendance was noted at the Symposium on Alcoholism held January 16th and 17th. The alcoholic clinic at the college is under a joint program with the Virginia Board of Health.

A portrait of the late Dean Harry Bear of the School of Dentistry was presented to the college with appropriate ceremonies on January 27th. The portrait, the work of David Silvette of Richmond, is the gift of friends of the late Dean.

NU SIGMA NU LECTURE AT DUKE

DR. ROBERT M. STECHER, F.A.C.P., Cleveland City Hospital, will give a Nu Sigma Nu Lecture in the Duke Hospital Amphitheater at 8 p.m. on Thursday, 15th March, 1951, on the subject of "Hereditv in Rheumatic Diseases."

Dr. Stecher, a former president of the American Rheumatism Association, has done original work on genetics and joint disease. The discussion will be illustrated by diagrams and photographs. All those interested in problems of heredity or of rheumatism are invited.

JOSEPH A. ELLIOTT, M.D., Charlotte, N. C., announces the association of JOSEPH A. ELLIOTT, JR., M.D., M.S. in Dermatology, formerly first assistant in Dermatology, Mayo Clinic, and the removal of their offices to Suite 7-A, Doctors Building, 1012 Kings Drive.

DR. CHARLES HUSTON GAY announces the moving of his offices to 3-B Doctors Building, 1012 Kings Drive, Charlotte, N. C. Pediatrics.

DRS. L. C. TODD and A. D. TAYLOR announce the removal of their offices from the Professional Building to the Third Floor, Suite A, of the new Doctors Building on Kings Drive (near the Memorial Hospital), Charlotte, N. C. Practice limited to Allergy.

THE EDGEWOOD SANITARIUM FOUNDATION and DR. ORIN R. YOST, Psychiatrist-in-Chief, announce that DR. WILLIAM MARION BEVIS (Diplomate of the American Board of Neurology and Psychiatry), has joined the staff of Edgewood Sanitarium, Orangeburg, S. C.

DR. R. T. FERGUSON and DR. G. S. EGDERTON announce the removal of their offices January 1st, 1951, from Professional Building to the Doctors Building, 1012 Kings Drive, Charlotte, N. C.

DR. THOMAS D. SPARROW—DR. JOE M. VAX HOY announce the opening of new offices, Suite 8-B, Doctors Building, 1012 Kings Drive, Charlotte, N. C.

DR. H. L. BROCKMANN, High Point, has been appointed a member of the Council of the Southern Medical Association from North Carolina for a regular Council term of five years, beginning at the close of the annual meeting in Dallas, Texas, in November. Dr. Brockmann succeeds Dr. Lenox D. Baker, Durham, whose term will expire with the close of the Dallas meeting in November, and who, having served the constitutional limit, is not eligible for reappointment.

ELI LILLY AND COMPANY announces the release of Tablets "Tylosterone" (Diethylstilbestrol and Methyltestosterone, Lilly). Heretofore, estrogens and androgens have been employed simultaneously on a basis that was largely ten-

tative. It was theorized that when used together, they would avoid uterine bleeding and virilization while giving relief from menopausal symptoms. Now, there is conclusive clinical evidence, obtained in such a way as to preclude both prejudice and psychotherapeutic suggestion, that the combination contained in "Tylosterone" does minimize the undesirable side-effects of estrogen alone, and furthermore, it affords an increased feeling of well-being while relieving the symptoms of menopause. In proper dosage, "Tylosterone" provides objective and subjective relief, without side-effects. Formula: Diethylstilbestrol 0.25 mg.; Methyltestosterone 5 mg.

SCHERING CORPORATION announces a new product, *Chlor-Trimeton Maleate Injection*. Each c.c. contains 2 mg. of chlorpropophenylamine maleate (1-parachlorophenyl-1-(2-pyridyl)-3-dimethylaminopropene maleate).

Indications: Treatment of certain allergic conditions where there may be desired more prompt action than is obtainable with oral medications, such as urticaria, hives, contact dermatitis, thus poisoning, severe angioneurotic edema, etc., and other insect-bites.

Dosage: Usually one or two c.c. (2.4 mg.) IM. As much as 5 c.c. may be given in severe cases that react favorably and exhibit no side effects from the last dose. Whenever possible, a test dose of 1 c.c. should be given as the initial dose to determine individual tolerance.

Packaging: 1-c.c. ampuls, containing 2 mg. per c.c., boxes of 6. Multiple dose vials of 10 c.c., containing 2 mg. per c.c., boxes of 1.

Organon Announces Acetoxan for Treatment of Rheumatoid Arthritis

Because 21-acetoxy pregnenolone has been noted to produce relief in many cases of rheumatoid arthritis without serious disturbances of metabolism, Organon, Inc., of Orange, N. J., has made this steroid available in aqueous suspension under the trade name, *Acetoxan*. Each c.c. of Acetoxan suspension contains 100 mg. of 21-acetoxy pregnenolone as micro-crystals in an aqueous medium containing 4.1% glucose, 0.04% polysorbate 80, and 0.45% phenol as a preservative.

Acetoxan is recommended only for the treatment of rheumatoid arthritis. Patients should be carefully selected, those in the younger age group responding most satisfactorily.

Acetoxan is available in 10-c.c. multiple dose vials. Descriptive literature on Acetoxan is available on request.

Schering Corporation announces *Penicibisul Tablet*; each containing 100,000 units potassium penicillin G crystalline—with 0.166 Gm. each sulfacetamide, sulfadiazine and sulfamerazine (a total sulfa content of 0.5 Gm.)

One of the principal advantages of combining penicillin and sulfonamides is that possibility of developing bacterial resistance is minimized. Other evidence shows that such a combination occasionally results in an increase in penicillin titer, and that it also may decrease the incidence of toxic reactions.

Eli Lilly and Company introduces—

AMPOULES QUINIDINE GLUCONATE, 0.08 Gm. per c.c., 10 c.c. (0.05 Gm. of quinidine alkaloid per c.c.) This is a stable aqueous solution which can be given IM to those who require the prompt effect of quinidine or to those who cannot take it orally.

The solution may be given IV in extreme emergencies—this method especially indicated for the control of cardiac

irregularities, including arrhythmia, which may occur to the anesthetized patient. Such situations occur more frequently when cyclopropane is used and during thoracic or upper abdominal surgery. In these circumstances, the parenteral administration of quinidine is a life-saving measure. The vital usefulness of this preparation suggests that it be made standard emergency equipment in every operating room, as well as in doctors' bags and offices.

URGENT REMINDERS

(Minnesota Medicine, May, 1950)

"Within the cold war is an inner battle of Semantics. Democracy, Freedom and Liberty have been appropriated as slogans by socialists and communists.

"And now we have been trapped into calling a leftist government a 'Welfare State.'

"It would be laughable if it were not so tragic.

"Socialism is not a 'Welfare State'

"Russia is a slave state. Let's call it that!

"England is a regimented state. Let's call it that!

"The only true welfare state is one with our kind of a Constitution and Bill of Rights and with a private enterprise economy.

"Let's be realists. We can't win elections and block socialism by condemning welfare and security.

"We can elect Representatives and Senators who will block further socialization of our political economy, IF every one of us will hammer home these truths:

"1. That welfare and security are nothing but words in Russia and England—while they are facts in America.

"2. That the boasted equality of the socialists and communists is one of common destitution.

"3. That slavery to the State is the inevitable result of socialism and communism.

"4. That welfare and security by any government is money taken from the people and given back, less a 40 to 60 per cent holdout.

"5. That those who want welfare and security in America can provide it cheaper themselves than by paying taxes to provide it.

"6. That the Constitution of the United States and our Bill of Rights provide the highest degree of welfare and security ever known in the history of man.

"President Truman professes not to know the meaning of 'statism,' by which term Senator John Foster Dulles recently defined the tendencies of the Truman administration. The President said that he had looked the word up in two or three dictionaries and that they were in disagreement. 'It's simply a scare word,' Mr. Truman concluded.

The Senator meant by 'statism' the encroachment of the state on all the fields hitherto reserved to the individual and society; to absorb more and more of the citizen's earnings; exercise increasing control over his life and habits.

RECENT ADVANCES IN TREATMENT

(W. H. Cole, Chicago, in *Northwest Medicine*, Nov., 1950)

Aureomycin and *chloramycin* are superior to penicillin in certain instances; e.g., in treatment of infection caused by penicillin-resistant organisms. The oral dose of *aureomycin* is 3 Gm. per day for an adult; IV dose is 0.6 Gm.

Chloramycin is particularly valuable in kidney infections and many gram-negative infections; oral dose is 3 to 4 Gm. per day. Recent work suggests that *terramycin* may be even more effective than *aureomycin* or *chloramycin*.

Bacitracin is a very effective agent, but it is still too toxic for general use.

Hexachlorophene (in soap or a detergent agent) 2 to 3% is a very effective antiseptic for scrubbing the hands preparatory to operating, scrubbing three minutes will

eliminate all bacteria, provided one scrubs every day or e.o.d.; if one has not scrubbed recently, scrub for six to seven minutes.

IV administration of fat—a coconut oil emulsion of 10% fat, 5% glucose and 5% protein hydrolysate—Knox P-20 gelatin is used as a stabilizer.

Many patients are in a mild state of K deficiency at the time of their operation. After three or four days without food by mouth, this deficiency might become acute. Important symptoms are weakness, listlessness and coma. The danger level in the blood is 3.5 milliequivalents. Ecg. is effective in detecting deficiency. An adult can be given 3 Gm. of K Cl every day without danger of toxic effect, provided there is no renal damage. In deficiencies one may give as much as 10 Gm. per day, as soon as corrected reduce to 3 Gm. per day.

Amino acids are utilized by the body when given IV.

Dramatic is the discovery that cross transfusion can be utilized in treatment of patients with scanty urine, in which condition nitrogenous products accumulate in the blood stream. Report is made of cross transfusion in 20 patients. This procedure is not without danger of serious and perhaps fatal reaction. A recent report is of the transfusion of 20 pints of blood with removal of the same amount from a patient who recovered.

Ward et al. studied 259 patients with carcinoma of the lip over a 15-year period. If lesions under 1 cm. the 5-year survival was 95%; 1 to 2 cm., 80; 2 to 3 cm., 59; over 3 cm., 41%. In their series, results from surgery were 10 to 12% better than irradiation.

It is not fully realized that a course of Lugol's solution is extremely valuable in establishing the diagnosis of mild hyperthyroidism, and that propylthiouracil is of much less value because its effect is much slower.

Antithyroid drugs are extremely useful in the treatment of hyperthyroidism, largely for preparation of patients for thyroidectomy.

THE AMERICAN CONGRESS OF PHYSICAL MEDICINE will hold its 28th annual session August 28th-Sept. 1st at the Hotel Statler, Boston. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

CHUCKLES

THE LAO IS BOUND TO BE GOOD

A solicitation from one of the groups made up of the most bashful and self-effacing of individuals, received just prior to our recent Tri-State meeting, is of unique interest. The gentleman modestly admits, on his own, that he is, "The Man for Your 1950-1951 Entertainment Program."

But that is regular run-of-the-mine.

What is, so far as known here, unique as a testimonial to ability is this:

"You did much to help our people overcome the feeling of gloom."

And that, my fellow-sufferers, is subscribed: "INDEPENDENCE, MISSOURI."

Whatever they may say to the contrary, the ninety-and-nine will love you for a *candid*, and hate you for a *candid*, opinion.

The recipe for successful after-dinner speaking includes using plenty of shortening.

Gossip is like muddy water. Let it stand and it'll settle in a hurry.

Imagination is what makes some politicians think they're statesmen.

BOOKS

METHODS IN MEDICINE. The Manual of the Medical Service of GEORGE DOCK, M.D., Sc.D., formerly Professor of Medicine, Washington University School of Medicine. A Comprehensive Outline for Clinical Investigation, Management, and Treatment of Patients with Various Medical Disorders, by GEORGE R. HERMANN, M.D., Ph.D., Professor of Medicine, University of Texas Medical Branch at Galveston. Second edition, completely revised. *The C. V. Mosby Company*, 3207 Washington Blvd., St. Louis 5, Mo. 1950. \$7.50.

This manual is offered as a bedside guide in investigating disease conditions. Each method described has been tried critically and has proved satisfactory. In Part I are described Methods of Routine Case Study; in Part II, Laboratory Procedures and Tests; in Part III, Methods of Clinical Investigation; in Part IV, Therapeutic Methods; in Part V, Dietetic Methods.

Particular attention is attracted to chapters on diagnostic and therapeutic methods in emergency conditions, special studies in neurological and psychological disorders, and the choice of special studies to make in the elucidation of disorders of the various systems and organs.

This is a book after a unique plan, and it is of unique value.

URGENT DIAGNOSIS WITHOUT LABORATORY AID: A Discussion of the External Signs of Conditions Which Threaten Life, by PROF. DR. HANNS L. BAUR, a. o. Professor of Internal Medicine, University of Munich. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1950. \$2.00.

As the foreword tells us, the author realizes that "many physicians and teachers, and consequently many medical students pay too little attention to the signs of disease which may be garnered at the bedside by one who is willing to train his senses and keep them sharpened by earnestly attempting to arrive at a diagnosis without laboratory aid." And the author reminds that, in a situation where life is endangered, immediate but well considered action is required, though neither time nor laboratory aid is at the doctor's disposal.

Manifestations, general and according to the systems of the body, manifest to the alert, educated senses, are set down, with their interpretation, making a book greatly needed by every medical student and nearly every doctor in practice.

CURRENT THERAPY 1951—Latest Approved Methods of Treatment for the Practicing Physician. Editor: HOWARD F. CONN, M.D. Consulting Editors: M. EDWARD DAVIS, VINCENT J. DERBES, GARFIELD G. DUNCAN, HUGH J. KERR, PERRIN H. LONG, H. HOUSTON MERRITT, PAUL A. O'LFARY, WALTER L. PALMER, HOBART A. REIMANN, CYRUS C. STURGIS, ROBERT H. WILLIAMS. 699 pages. *W. B. Saunders Company*, Philadelphia and London. 1951. \$10.00.

This, the 1951 edition, of this annual collection and condensation of best means of treatment in various branches of medicine covers treatment of diseases classified under Allergy, Endocrinology, Infectious Diseases, Metabolism and Nutrition, Diseases of the Urogenital Tract, Cardiovascular Diseases, Nervous and Mental Diseases, Dermatology and Syphilology, Gastroenterology, Respiratory Diseases, Gynecology and Obstetrics, and Hematology. It is gratifying to see recognition of the fact that the general practitioner deals, and deals competently, with obstetrical and gynecological problems. Each subject is presented by one having special knowledge of it, and having the ability to choose the best out of a variety of methods, and to present the choice clearly and concisely.

INCREASING PERSONAL EFFICIENCY, by DONALD A. LAIRD, Ph.D., Sc.D., Industrial Consultant, Middle Haddam, Conn. Third Edition. *Harper & Brothers*, New York and London. \$2.95.

With the statement that efficiency depends greatly on loyalty to work and joy in work, no one will disagree; and in so far as the author sticks to the development of this theme the book has value.

The story of how the smart psychologist found that the average bricklayer used 18 movements in laying a brick and that the work could be accomplished in just five movements loses point to one who knows that 40 years ago a bricklayer laid 2,000 bricks a day, while today the number is less than one-fourth of 2,000. And there's a lot more of the same kind of stuff.

ILLUSTRATED MAGIC, by OTTOKAR FISCHER, with an introduction by FULTON OURSLER and an unpublished chapter by the late HARRY KELLAR, most famous American magicians. Translated and edited by J. B. MUSSEY and FULTON OURSLER. *The Macmillan Company*, 60 Fifth Ave., New York 11, N. Y. 1950. \$3.95.

In this book are exposed hundreds of magic effects as produced by professionals, by amateurs and by the Fakirs of India. Explained are the secrets of magical apparatus; illusion effects of the past and the present; feats of dexterity and skill; fakes, gimmicks and other secret accessories; vest-pocket magic; mathematical and sleight-of-hand card tricks; mind reading, clairvoyance and telepathy; illusions; the mystery of escapes from chains, handcuffs, leg and neck irons, etc.; and puzzles and their close connection with magic. The reader is let in behind the scenes and allowed to see the skill and ingenuity which have gone into the perfecting of the ancient art of humbuggery.

Every doctor should set his face against everything that smacks of the miraculous or the magical. Here is a book for him to read and recommend to his patients and friends.

ALCOHOLICS ARE SICK PEOPLE, by ROBERT V. SELIGER, Johns Hopkins University Medical School. *Baltimore Alcoholism Publications*. \$2.00.

If any one has seen any increase in the cures of this kind of "sick people" in the past 50 years, he has seen something which has escaped the observation of this reviewer.

ARTHRITIS AND COMMON SENSE, by DAN DALE ALEXANDER. *Bruce Humphries, Inc.*, Boston. 1950. \$2.50.

The dedication is "To Edith." Neither Edith nor the author is further identified. Apparently the author's sock-sureness as to arthritis is evolved from his inner consciousness.

STOP GENERAL SALE OF PISTOLS AND FURTHER REDUCE NUMBER OF HOMICIDES

(Statistical Bulletin, Met. Life Ins. Co., Aug.)

The homicide rate is now less than half what it was two decades ago. The rate decreased steadily to a low of 2.6 in 1944; a rise in the immediate postwar period brought the rate to 3.5 in 1947, but by 1949 it was almost back to the 1944 level. It is noteworthy that homicides decreased in frequency during the depression years, when unemployment and economic stringency were widespread. The temporary increase in homicides just after the war may be accounted for, in part at least, by the availability of arms to large numbers of men who had brought them home as war trophies.

Each of the color-sex groups in this insurance experience shared in the reduction in the homicide rate. In each sex, white policyholders recorded a larger reduction than the colored, thus widening further the difference in rates between the two races. Currently, the figure for the colored is more than eight times that for the white.

One can only speculate on the forces which have operated to reduce the homicide rate in the past two decades. It is likely that the clearance of slum areas, the general rise in the level of education, and the improved facilities for dealing with problem children and delinquents have contributed toward curbing anti-social behavior. But probably much more effective has been stricter law enforcement. The general tightening up of restrictions on the sale of firearms apparently has had a salutary effect.

Homicide is responsible for the loss of about 8,500 lives a year in the general population of the United States. More than one-half of these victims even now are killed by firearms. Prohibiting the sale of guns so far as possible, limiting strictly the number of permits given, and penalizing severely persons found carrying firearms without a permit would be effective in further reducing the number of murders. So long as we tolerate the traffic in firearms we shall pay the price in a high incidence of homicide and of other criminal activities.

A STUDY OF ARRESTS FOR DRUNKENNESS IN SALT LAKE CITY

THE UTAH STATE BOARD OF ALCOHOLISM, in coöperation with the University of Utah Graduate School of Social Work, undertook to learn:

First, is the problem of the "drunks" in Salt Lake City a resident problem?

Second, the men arrested in one year for drunkenness show up in police records in other years with what frequency?

Third, is there evidence to justify a proposal that public funds be appropriated for a combined custodial and treatment program?

Following are some of the findings of the study:

The ratio of male to female arrests for drunkenness in Salt Lake City in 1948 was 14 to 1, number of such arrests being 272 as against 3,931. There were 580 men who accounted for 2,291 arrests for drunkenness out of the total of 4,203.

The age range of the 580 was 20-82—23% under 40; 50% under 43.

Race—Of the 580 men, 512 (88.2%) were "white." The remainder were Mexican, 41 (7.1%); Indian, 14 (2.4%); Negro, 12 (2.1%); Japanese 1 (0.2%).

In 1948 the average of 3.5 arrests per person; in 1949, average 1.9. The drop is attributed in some part to deaths and to the moving on of transients. Transients 24.8% of the total group accounted for only 12.3% of the total number of arrests over the 5-year period.

Those of us who remember that at the depth of the depression more than 25 per cent of the population of North Carolina were on national government relief, while the State government in Utah provided all of the little relief needed by that State's citizens, will be surprised to learn that in one year, in the chief lieu of the Latter Day Saints, a city of like population to Charlotte, there were more than 4,000 arrests occasioned by over indulgence in alcohol.

True, 4,000 is but a patching on the number of such arrests in Charlotte in a year's time; still, the total is quite a few.

1. *Quarterly Journal of Studies on Alcohol*, Dec.

MEDICAL TREATMENT OF HYPERINSULINISM

(H. J. John, Cleveland, in *Ohio Med. J.*, May)

The clinical entity hyperinsulinism is either (1) a derangement of the regulatory mechanism of blood sugar, owing to various causes, largely unknown; or (2) anatomic, the result of a pancreatic tumor involving the islet tissue. The first type can be treated medically; the second requires surgery.

Hyperinsulinism is a condition of nervousness, hunger, sweating, low blood sugar; sometimes also of muscular twitches and convulsions and a drift into unconsciousness. Too much insulin in the blood stream may be owing to overproduction; often the symptoms are due rather to a derangement of the regulatory mechanism.

Blood sugar determination confirms or eliminates hyperinsulinism. Is it being caused by a functional disturbance or a tumor of the islands of Langerhans? The differentiation can be made by a trial of medical treatment with a moderate-carbohydrate, high-fat diet, with or without insulin, as indicated in the individual case.

John has treated 23 cases medically, with no failure.

The symptoms of hyperinsulinism may continue for several years and remain fairly constant or they may gradually become more severe. Symptoms increasing in severity rapidly is presumptive evidence for a tumor, but it still would have to be proved before operation is advised.

PLAUSIBLE AS TO SOME MIGHTY M. Ds.

After an hour's wait he got in to see the doctor and asked for a tablet to stop the tickling in his throat. Otherwise he felt all right. The doctor waved him into an adjoining room with "strip to the waist."

In the other room was another man stark naked. The lozenges-seeker queried: "What kind of doctor is this? I come in here to get some lozenges for a tickling in my throat, and he tells me to strip to the waist."

The other rejoined: "And I came here only to deliver a telegram."

—*Medical Times*.

CARDIAC MURMURS AND THEIR INTERPRETATION

WITH SO MUCH being said in praise of diagnosis by gadgets and sleight-of-hand, it is well to be brought back now and then to a consideration of the value of methods that our grandfathers in medicine knew and used to the great good of their patients.

Spafford¹ makes a contribution in point.

Normal blood passing through normal chambers and normal valves produces no sound other than the two normally heard. When blood is forced through a narrowed aperture, or when it regurgitates through an incompetent valve, vibrations are produced by the irregularity in the current, which vibrations are transmitted through the chest wall as audible murmurs or palpable thrills. The murmur is usually transmitted in the direction of the flow of current producing the murmur. The less the viscosity, the greater the ease with which vibrations may be set in motion in the blood stream. Murmurs detected in anemia often disappear with improvement of the blood state. Another factor is the intracardiac pressure. Thus murmurs which have been distinct often disappear with the onset of decompensation and fail in intracardiac pressure.

Murmurs are classified as to time; systolic, presystolic, late systolic, diastolic, prediastolic, late diastolic. *For all practical purposes systolic and diastolic is sufficient.* In timing a murmur the examiner's finger should be placed on the neck over the carotid artery. The quality may be soft, loud, blowing or musical. Note whether it is followed by or replaces the normal sound; murmurs which replace the normal sound are more serious. The loud murmur may mean cardiac hypertrophy, nature's method of increasing the blood volume, whereas a soft murmur may signify dilatation, thinning out of the myocardium and loss of efficiency—to be borne in mind when a murmur that has been loud becomes soft or faint.

Diastolic murmurs nearly always denote organic valvular disease, rumbling diastolic, stenosis of the mitral or tricuspid. Many soft systolic murmurs are of no significance; at the apex do not mean mitral insufficiency unless there is history of rheumatic infection, or other sign of cardiac insufficiency. This is also true at the tricuspid area. Functional murmurs will sometimes disappear following injection of atropine, and be accentuated following the injection of adrenalin. Organic murmurs never disappear following the injection of atropine.

In mitral stenosis the rumbling, low-pitched, vibratory diastolic murmur may be missed unless the patient is examined lying on the left side at the edge of the table. Important to note in association with this murmur are the loud mitral first

¹ A. L. Spafford, Kansas City, Mo., in *Medical Times*, Nov., 1950.

sound, the decrease in intensity and often difficult-to-hear mitral and aortic second sounds, and the loud pulmonary second sound. The murmur of mitral stenosis is not transmitted. It is sharply localized to the apex. It may or may not be accompanied by a thrill. Exercise exaggerates the murmur.

Pure organic mitral insufficiency is uncommon and the diagnosis should not be made in the absence of a rheumatic history or atheromatous disease. It is characterized by a long loud systolic murmur at the apex, transmitted to the axilla and to the left of the scapula. It may be associated with mitral stenosis and then there will be a double murmur.

Tricuspid insufficiency is rare; it causes a loud systolic murmur over the fourth interspace in the left parasternal line, and is transmitted to the right and downward to the xiphoid. A pulsating liver often accompanies. Tricuspid stenosis also rare, is rheumatic in origin. The murmur is a rumbling diastolic, close to the left border of the sternum in the fourth interspace.

Pulmonary regurgitation, exceedingly rare, gives rise to a soft blowing diastolic murmur transmitted downward along the left border of the sternum. Pulmonary stenosis, also extremely uncommon, has a systolic murmur p.m.i. the area where so many functional murmurs are found, especially in childhood, transmitted toward the left shoulder.

Aortic regurgitation is one of the most common heart lesions. The murmur is diastolic, in the second right interspace and transmitted downward to the left and toward the apex. Aortic stenosis is rather common, has a loud murmur, which arises in the second right interspace and is transmitted upward into the neck and often over the entire precordium.

The cardiorespiratory murmur is probably produced by pressure of the heart in systole forcing air from a portion of the lung with which it is in contact. Holding the breath will often cause its disappearance. It is systolic and is heard in the mitral area.

Congenital heart murmurs are loud, harsh, heard at the base or all over the precordium and are likely to be continuous or machine-like. Arterio-venous aneurysm may give rise to a similar murmur.

ANOTHER REASON FOR GETTING PATIENTS UP PROMPTLY (Editorial *What's New*, July-Aug.)

Review of the clinical records and autopsy protocols of 6,700 hospital cases shows that 11 patients of this group died during or immediately following the use of a bed pan. Although all but one had organic heart disease, the precise cause of death could be established as to only four patients; one showed rupture of a dissecting aneurysm of the aorta into the pericardial cavity; a second had cerebral and subarachnoid hemorrhage; a third, myocardial infarc-

tion; the fourth, pulmonary embolism.

A study was made of the effect upon the circulation of deliberately increasing the intraabdominal and intrathoracic pressures in normal subjects and in patients with heart disease. The subject was requested to take a deep breath, hold it, and strain down forcibly as if to have a bowel movement. Before, during and following the strain, egs. were recorded. Bearing down was accompanied by distinct changes in the b. p. in the radial artery. In a typical subject, the s. pressure fell slightly with the deep breath; at the commencement of the straining, both s. and d. pressures rose abruptly from 147/80 to 203/142. As the straining continued, both pressures fell, though the drop was greater in the s.; at the end of the period of straining, this unequal reduction brought about a markedly lowered pulse pressure, practically nonexistent in some cases. At the moment of relaxation the pressure was suddenly reduced from 132/98 to 84/58, after which it rose within five seconds to 181/95. This was followed by a gradual return to the initial level within 30 seconds.

Changes of pressure within intrathoracic vessels were shown by the b. p. curves obtained from the radial artery in 10 normal subjects. The sharp rise of IV pressure of the initial strain was counteracted by a simultaneously increased intrathoracic pressure. The rise in IV pressure that followed relaxation was not accompanied by this protective buffering force. It is at this point that vascular rupture may occur. The fall of pulse pressure near the end of the bearing-down period may serve to promote IV clotting and also reduce coronary blood flow. The marked variations of IV pressure may dislodge thrombi which are not firmly attached to the walls of blood vessels.

Egs. were made of 25 normals and 25 with heart disease. In the normals a transient increase in rate was observed as the deep breath was taken. During the beginning of the strain bradycardia appeared, and toward the end of the bearing-down the rate again increased. In all the normals marked bradycardia developed on relaxation. Ectopic rhythms of nodal type appeared in seven subjects; these changes in rhythm and rate were practically abolished by 1.5 gr. atropine IV. Bradycardia was also noted in patients with rheumatic heart disease, but was less frequent in patients with hypertensive and arteriosclerotic heart disease.

It seems probable that the factors responsible for death in a patient while using the bed pan are vascular hemorrhage, pulmonary embolism, or cardiac arrhythmias. Patients with cardiac and vascular diseases should not strain at stool. Use of atropine, avoidance of constipation, early ambulation to guard against venous thrombosis, a wheelchair equipped with a toilet seat and a removable receptacle, and proper use of anticoagulant drugs and the prevention of constipation, may reduce the incidence of bedpan deaths.

FILMOR TENDON INJURIES OF THE HAND G. T. Hays, Minneapolis, in *Minn. Med.*, Dec.

The cleansing and preparation of the hand should be done under general anesthesia. A pneumatic tourniquet should be used to control the bleeding. The cleansing should be done with a mild soap and an abundance of water. Brushes should not be used. The removal of the dirt should be dependent upon the emulsifying action of soap and the washing effect of water, not upon the effect of scrubbing or rubbing. This may consume 20 to 30 min. Ether may be used to remove grease or oil, then a detergent antiseptic. The hand and wound should be irrigated copiously with normal saline. The hand, all fingers and the forearm are then prepared with an antiseptic none of which should be allowed to enter the wound.

All contaminated and devitalized tissue should be cat-

fully removed by sharp dissection. Extreme care should be taken to preserve nerves, blood-vessels, tendon sheaths and tendons. Frequently these are difficult to recognize in a bloodless hand, especially the nerves and vascular branches. Severed nerves should be identified for repair.

This work cannot be done fast, and there are no short cuts. Many tedious hours may be spent by the surgeon who is striving for good results in his flexor tendon surgery.

EXTREME HIGH FEVER—RECOVERY

J. T. Rowling, in *British Med. J.*, Sept. 9th, 1950

After half a pint of blood had been given at 20 drops per minute the 67-yr.-old Chinese began to have rigors. The transustion was stopped, but the rigors continued. After half an hour his t. had risen to 107° F., p. to 150, being barely perceptible. Half an hour later p. could not be felt anywhere, the breathing was shallow and labored, and the limbs cold and wet. The axillary t. rose to 112.5° (the thermometer stopped at 110°, but by producing the marking it appeared that the reading lay midway between 112 and 113), checked by three readings in the next five minutes. Quinine, 15 gr., was given IV, with a further 1 ml. of nikethamide which was continued hourly. The cold sponging was continued. The patient now appeared moribund. However, an hour later, p. was just perceptible (150) and the t. 101°. The improvement continued and by the next morning the patient was conscious and taking fluids by mouth, with p. 120 of fair volume, and t. of 100.5°. Subsequent convalescence was uneventful.

MYOCARDIAL INFARCTION VS. PULMONARY EMBOLUS

When myocardial infarction is suspected but cannot be proven definitely, suspect a pulmonary embolus. An embolus to the lung may cause pain suggesting coronary thrombosis. X-ray of the chest may show a wedge (pie) shaped lesion in the periphery of one of the lungs, or a hazy shadow or a elevation of the diaphragm on the affected side and small pleuritic effusion or no changes at all (infarction of the lung may not follow embolization). J. W. Fischer, M.D., in *American Practitioner*.

Handbook for Dental Prosthetic Technician

Just Off the Press

A handbook for the training of dental prosthetic technicians is believed to be the only existing Government publication on this subject. Prepared by the U. S. Naval Dental School for the training of Naval personnel, this 460-page manual for every student of dentistry is designed, in part, as a classroom text, and also serves as a ready and complete reference book on the latest approved techniques and methods.

The well-illustrated, step-by-step instructions on the various dental laboratory operations discussed in this book enable the student to perform these operations with greater ease and to develop dexterity and accuracy in their performance.

Orders are now being accepted at \$1.25 a copy. A 25 per cent discount is allowed on all quantity orders of 100 or more copies to be sent to the same address. Send orders, with remittance, to the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Remittance should be made by check or money order payable to the Superintendent of Documents.

The Florida Medical Association has changed its By-laws to permit Negro members for the first time in the 76-year history of this association. The 90 Negro doctors of medicine now in practice in Florida are now eligible for membership.

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INTERNAL MEDICINE

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JAMES M. NORTHINGTON, M.D., Editor

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PRESIDENTIAL ADDRESS*

What Shall We Do With So Great A Responsibility?

RICHARD B. DAVIS, M.D., M.M.S., F.A.C.S., Greensboro, North Carolina

MR. VICE PRESIDENT CANTEY, MEMBERS OF THE TRI-STATE MEDICAL ASSOCIATION, HONORED GUESTS, LADIES AND GENTLEMEN:

As I come before you tonight attempting to deliver a presidential address, I arise with TIMIDITY, I stand with FEAR, I think with a DISTURBED MIND, but I SPEAK WITH HOPE. No man ever faced so fine an audience more GRATEFUL, more HUMBLE AND YET SO PROUD.

I am truly GRATEFUL for the great honor of being your PRESIDENT, for this is the highest HONOR that the Society can pay to ANY ONE of its members. I am grateful too, FOR THE MANY FRIENDS that I have in this Association and for the opportunity of attending the annual meetings to improve my medical knowledge.

I am HUMBLE because I stand on sacred GROUND, made so by the great men of this Association, who have STOOD where I now STAND. I am HUMBLE too because I realize just how DEPENDENT I am and have been upon you, my colleagues, and professional brethren.

The ADMINISTRATION of a President of any

organization is STRONG and USEFUL ONLY when GUIDED and SUPPORTED by the SYMPATHETIC COOPERATION of the individual member. You have given this TYPE OF CO-OPERATION, therefore, I humble myself before you and before this great Association.

I am PROUD because I live in a country, my country and your country, where a man is FREE TO SPEAK HIS MIND, VOTE HIS CONVICTIONS, SUPPORT HIMSELF AND FAMILY AND WORSHIP THE GOD OF HIS CHOICE. I am proud not only for these things but I am proud also for the PRIVILEGE OF BELONGING to the GRANDEST, MOST NOBLE AND MOST BELOVED PROFESSION known to all mankind. Then I am proud, yes very proud of being the PRESIDENT of the TRI-STATE MEDICAL ASSOCIATION and to have the HONOR of following or at least trying to follow in the footsteps of my predecessors, who were MEDICAL and COMMUNITY LEADERS in the CAROLINAS AND VIRGINIA. These men have set a standard worthy of our ESTEEM AND ADMIRATION. We shall do well to EMULATE THEM.

This brings me to the subject of my address; which is: WHAT SHALL WE DO WITH SO GREAT A RESPONSIBILITY? If it is too long, please forgive me for being too enthusiastic in my

*To the Fifty-second Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Columbia, February 19th and 20th, 1951.

soul and too feeble in my mind.

You will ask WHAT RESPONSIBILITY. My reply is THAT RESPONSIBILITY which falls upon your shoulders and mine as medical doctors, healers of the sick, whether mentally or physically, as councillors of the young and inexperienced, as father confessor to the morally wayward, as charitable, intelligent, fair-minded, physicians (the Dr. Christian type) and as clear thinking community leaders. These are our responsibilities and they ARE GREAT. The older we grow, the more they multiply. We shall never be able to realize their magnitude until we learn to see OURSELVES AS OTHERS SEE US.

How do others see the doctor? They do not see him as an ORDINARY MAN being possessed of all the human weaknesses, aspirations and physical desires as they THEMSELVES. They see the doctor because he is a doctor, as a true and tried friend, who never gets TOO TIRED, TOO SLEEPY, TOO HUNGRY, TOO SICK OR TOO OTHERWISE OCCUPIED but that his patients come FIRST, LAST AND ALWAYS.

Why do they feel this way? Is it not because of our forefathers in the profession? Did they not so live and order their lives? Their patients loved them with an undying devotion. He was their SOCIAL SECURITY from the cradle to the grave. I assure you that no forms had to be filled out or okayed before his services could be obtained. Whether in joy or in sorrow, in the beginning or the end of life, the doctor was there. He was there to make life safer for the newborn, easier for the mother, to comfort and relieve all who suffered or grieved during life's long journey, even until the end.

This valued service will not be EASILY WITHDRAWN nor LIGHTLY GIVEN UP by those who hold it NEAR AND DEAR. Let us beware, therefore lest our patients are LEAD to believe that such a danger is in the making.

Yes, as doctors we have many responsibilities: RESPONSIBILITY to ourselves, to society, to patients' families and loved ones, to the profession and last yet not least, but rather the greatest of them all, RESPONSIBILITY TO OUR PATIENTS.

Responsibility to one's self is met by self respect. One must respect himself as being worthy of the name "Doctor" of medicine. To have this respect for ourselves, our conduct must be that of a gentleman. Harmful gossip, idle words and vulgar practices must not pollute the DIGNIFIED KINDLY PERSONALITY of one so esteemed as the doctor. Our dealing must be STRAIGHT, our word our BOND and our FAITH as solid as the Rock of Gibraltar. TO THYSELF BE TRUE AND ALL MEN WILL BE DRAWN UNTO YOU.

We have a responsibility also to Society. No society is so exclusive nor yet so humble but that the doctor is welcomed. This places us under great obligation. If we have been accepted without question surely we should CREATE none, as to our REFINEMENT, INTEGRITY AND DEPENDABILITY. We are not only accepted but we are invited to take a leading part. Our opinion on civic as well as medical problems, for they are oft times closely related, is sought and respected. Seldom is any forward welfare movement launched without the knowledge and advice of the local doctors. This great courtesy and respect is frequently extended even to the family of the doctor. THE COMMUNITY DOCTOR is expected to be a COMMUNITY LEADER. Any leader has a great responsibility to those that he leads.

We also have a responsibility to the family and love ones of our patients. They are WORRIED. They are tired from loss of sleep. They are NERVOUS and they are HEART SICK. They are TOO DISTURBED to ask direct, simple questions. If they do they will often repeat them over and over. It is not asking too much for them to want to know HOW SICK THEIR LOVE ONES ARE? WILL THEY RECOVER SOON? WILL THEY HAVE TO GO TO THE HOSPITAL? WILL THEY HAVE TO BE OPERATED ON? WILL THE LOVE ONE NEED A SPECIAL NURSE? and HOW MUCH WILL IT ALL COST? They are only seeking encouragement and security. Let us put ourselves in their place. It is our responsibility and duty to be kind, sympathetic and patient with them and apply the Golden Rule DO UNTO OTHERS AS YOU WOULD HAVE THEM DO UNTO YOU.

What of our responsibility to the profession? All of us have taken THE HIPPOCRATIC OATH. This binds us as no other profession is bound into ONE GREAT ETHICAL ORDER. For the privilege and prestige of becoming a doctor we owe to those great men in the teaching profession an allegiance of love and respect. We dare not fail them. Through and by their labors we are born into the profession. To our fellow practitioners is due fair play, ethical conduct, a bridled tongue, a sympathetic attitude and a co-operative spirit. Any doctor who listens to a patient criticizing his professional brother is wasting his own time, jeopardizing his reputation and adopting a DEAD BEAT for a patient. REMEMBER A DOG THAT BRINGS A BONE WILL ALSO CARRY ONE AND MANY TIMES A LARGER ONE THAN HE BROUGHT.

When called into consultation be very CAREFUL and be very GRATEFUL for this honor. You have NOT been called to make the attending doctor LOOK SMALL or IGNORANT in the eyes

of the patient; nor have you been called to strut your own EGO. Rather you have been called to help, if you can, a professional brother save a life or restore good health to some child, some father, some mother, some sister or some brother. After carefully examining the patient ask the attending physician for a private consultation, then tell him what your opinion is and why. Do not divulge any information to the patient or his family until after your private consultation, then only if the attending doctor asks you to do so, otherwise let HIM do the TALKING. Let us follow the example of the wise old bird that lived in the tree, THE LESS HE SAID THE MORE HE COULD SEE. THE MORE HE SAW THE LESS HE HEARD, WHY CAN'T WE BE LIKE THAT WISE OLD BIRD?

Now we come to the greatest of all our responsibilities; that responsibility to our patients. One does not practice medicine very long before he becomes familiar with the PITIFUL, HELPLESS and appealing expression on the face of a very sick man, woman or child. This experience cannot be taught in the classroom. It cannot be read out of a book; nor can it be understood by the HEART, until we come face to face with it. When we do the DEPTH of OUR SOUL is stirred with sympathy and a sincere desire to help. Then, for the first time PERHAPS we realize JUST HOW GREAT IS OUR RESPONSIBILITY and how desperately in need we are of divine knowledge and guidance. For even those doctors who were straight "A" STUDENTS, while in college, will early discover difficult cases who fit no pattern that they have ever seen or even been taught. Here we are now calling ourselves doctor and just how much help can our patients get from us. Even if we give them all we have, is this going to be enough to save their life? Remember that unless we do, we shall fail those who LOVE and REPECT us most.

Let us not accept any call lightly, but rather feel our grave responsibility from the very first. Let us ask ourselves to whom can the patient go EXCEPT to the doctor? To whom would we go except to a doctor? To what kind of a doctor would we go? I dare say without hesitation our answer would be "to the doctor who is the KINDEST, GENTLEST, WISEST and MOST SYMPATHETIC." Then if that be so we should strive to be that TYPE of doctor ourselves so the patients will seek us.

We should endeavor to develop a kind and gentle bedside manner. We should not allow ourselves to speak short or act cross if the patient does not coöperate immediately. The expression on our face should be calm and pleasing as much as possible during the examination. Signs and symptoms of a

serious nature should not be betrayed to the patient by our own facial expression. Be thorough, but be gentle. Make any and all tests necessary when practical and available. DON'T PUT ALL YOUR FAITH IN ONE LAB REPORT. It could be hopelessly misleading. ENCOURAGING WORDS SOFTLY SPOKEN will do much to instill confidence and hope.

When giving orders for treatment be EXPLICIT, be POSITIVE but be PRACTICAL. Remember FIRST was the patient and next was the disease. In outlining any form of treatment, never put the CART before the HORSE, neither try to separate them because they belong together and must be treated together. It is true that WITHOUT MEDICAL SCIENCE there would be no medical profession. It is equally true, however, that WITHOUT A PATIENT there would be neither MEDICAL SCIENCE nor MEDICAL PROFESSION. It is our DUTY to USE any and all science in whatever form available to save a life or restore a sick man to health and happiness in both mind and body. When we are tired and sleepy and our nerves are frayed at both ends it is not always easy to carry such a load, but to who else can the patient go? We are, therefore, responsible as the only source of relief.

We have yet another responsibility to our patients and concerning this, most of us have been grossly negligent. Who will take our places and render this great humanitarian service when we are gone? We have ASKED for and received COMPLETE CONTROL of all medical education. The people have said that the doctors are our friends, they know what educational requirements are necessary to prepare the young men for the healing of our ills. If they are our friends, they will supply us with enough young doctors to take their places. We will leave it to them. Here again the RESPONSIBILITY is ours but not without the AUTHORITY and PRIVILEGE to meet it. So, my friends it becomes our collective duty, not that of the teaching profession alone, but the duty of every doctor in the sound of my voice and all ALIKE; to PREPARE, SUPPORT, ENCOURAGE and DEMAND of all concerned with MEDICAL EDUCATION that a PRACTICAL, REASONABLE and ECONOMICAL MEDICAL CURRICULUM be put into force all over this United States of America. We must not continue to allow four boys out of five to be rejected by medical schools. Many of those rejected would do credit to the profession and do honor to the name of doctor. We must not be satisfied to graduate only specialists and researchers. Who shall we leave for the family doctor? Every family wants and needs a family doctor. The future of the medical

Clinical Experience with Crowe's Vaccine in the Combined Management of Arthritis

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CONSERVATIVE, yet reliable, calculations estimate that eight million people in the United States alone suffer from rheumatic disease. There is, as yet, no established specific cause or cure. Confronted with such a problem, we have little justification in over-emphasizing the value of any single remedy. Likewise, we are totally unjustified in prejudice or dogmatism, when applied to condemning any proposed management, until we have first convinced ourselves of complete understanding and trial of the method.

"ACTH and Cortisone do not cure anything"; so states the *Journal of the American Medical Association*.¹ Another hoped for utopia fails to measure up to expectations in rheumatic disease. Many valuable single aids have been developed and placed at our disposal in the past several years; but none, by themselves, accomplish what is still desired in relief to these sufferers. There is no reason why clinicians should not use any of these established aids in combination, when such a combined management may net a more effective relief to the case in hand. In the therapeutic field this is practiced widely, although in many cases subconsciously. Physical therapy and gold in combination; likewise, fever therapy and sulphur, vaccines and salicylates, and so on.

The scope of this report is to briefly advocate combined therapy in arthritis, and emphasize a six-year experience with Crowe's vaccine as one of the adjuncts.

HISTORY AND DEVELOPMENT OF THE VACCINE

Doctor H. Warren Crowe, of London, began his studies during World War I, and has continued ever since. In addition to publishing two books^{2,3} the volume of his studies has been tremendous. By the use of specific precipitins he studied extensively the behavior of streptococcus and staphylococcus organisms, including those isolated from rheumatic patients. From behavior reactions of the organisms, several strains of the streptococcus, and at least two strains of staphylococcus were isolated, and from these the vaccine was developed. Of no less importance, clinically, are the discussions found in his writings of human behavior (response and reaction) to these separate strains. The vaccine is prepared from freshly isolated cultures (not from

laboratory stock cultures) and is finally placed into sealed vials in high concentration, ready for distribution.

TECHNIQUE OF ADMINISTRATION

Complete or incomplete mastery of basic fundamentals in technic will, without doubt, advance or defeat the clinical results of this vaccine. Personal discussion with more than fifty clinicians using it is conclusive testimony to this fact.

While scientifically not true, two viewpoints are permissible clinically, since they create simplicity, not only for the physician, but also for the assistants who usually assume an integral part in the treatment. The first deals with the preparation itself which is a vaccine: but by virtue of its processing, the end product probably simulates an autolysin. Due to necessity of small fractional dosage a much more simple and "foolproof" concept can be gained if the product is visualized and the dosage calculated as though it were a serum. The second, also related to dosage, will be visually simplified if the term "units," in place of "organisms per c.c.," is used. These suggestions will be better conceived as dosage is discussed.

The vaccine is given subcutaneously twice weekly until response is obtained, and then once weekly until the patient becomes symptom-free between injections given at longer intervals. The vaccine may then be stopped. At the first sign of relapse it is again started and continued until relief is obtained.

DOSAGE

Success or failure in clinical results will, without reservation, depend upon the concept of this basic principle. Unless correct dosage is thoroughly understood and practiced, expected end results will not occur, and serious damage may result. This report can deal briefly with fundamentals only. Crowe's guide in detail should be constantly consulted.

A change in viewpoint will be necessary for most American physicians. Our training has been to follow the directions for our commercial stock vaccines—seven to ten million organisms as an initial dose, then increasing rapidly each five to seven days to either severe reaction or a top dose of 2,000 million.

For any degree of success whatsoever with Crowe's vaccine, one must divorce himself from this concept and replace it with a direct opposite. We, who are experienced in its use, feel that the

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initial American dose is from 70 to 100 times too high, that it will probably quickly sensitize the host until the alarm signal cannot be recognized. Crowe's concept of the mechanics involved is that there exists a fighting ratio between the immunological processes of the host and those of the invading organisms, and that unless dosage is properly governed, the host will be sensitized and the virulence of the invaders increased. Clinical experiences bear out his contentions. The fundamental slogan, therefore, relative to dosage is: "Always watch for signals to decrease dosage, and never allow reactions."

For proper evaluation of dosage, three terms must be clearly defined and carefully apprehended. They are response, reaction, and relapse. Table I outlines their characteristics, and their relation to dosage.

When response is manifest the dosage is proper and should not be increased. As the patient improves in immunity it will be frequently noted that mild focal reaction becomes evident. The dose should then be decreased by one-half. Whether the dose is large or infinitesimally small is not of the slightest moment; but reactions must be avoided—they may sensitize the host.

General and lag reactions are more difficult to recognize at first, but the greater the experience the easier the whole thing becomes. Lag reaction must be differentiated from both response and relapse.

Relapse, outlined in Table I, may occur early in treatment, but also must be alerted against during long intervals when the patient is not receiving active treatment.

Daily diaries, such as one suggested in Table II, will be helpful and time-saving to both physician and assistants.

Initial dose recommended in acute adult cases is 25,000 units; in subacute or chronic, 50,000 units. Subsequent dosage is dependent upon the response or reaction.

The vaccine, as ordered from London, comes in three vials—one containing 100, or maybe 1,000, million streptococci per c.c.; one same strength of staphylococci per c.c.; and one mixed in equal proportions of each. At the beginning proper dilution of these concentrates into stock solutions and then further dilution into available working solutions, will require careful mathematical calculation. With a little practice, using plain water at first, the process becomes simple.

This is accomplished by diluting the original vial with isotonic saline, first to 1 million as unity. This prepares the stock solution; then by dilutions in multiples of ten the various working solutions are prepared to equal 0.1 million (100,000 units), 0.01 million (10,000 units), etc. Simplicity by using the term units as previously suggested, will now become obvious. Phenol 0.5 per cent is used as preservative. Simplification of the process can be effected by using the 20-c.c. vials of saline (phenol already added) dispensed by Lilly or other pharmaceutical companies. Calculations are made, then the proper amount of saline withdrawn from the vial and replaced with the proper amount of vaccine.

Although the British recommend starting each case with the streptococcus and staphylococcus separately, finding the tolerance dose to each, and

TABLE I
DOSAGE GUIDE

RESPONSE	REACTION	RELAPSE
Immediate improvement of symptoms following given dose of vaccine	Local (needle track): Swelling or tenderness at site of injection. Bad technic. No change in dosage.	Response for a time 3-10 days, then return of symptoms even more severe than before.
Never preceded by aggravation of symptoms	Focal: Aggravation of symptoms—pain, stiffness, swelling.	Dose same or increased.
Dose remains same	Dose reduced to $\frac{1}{2}$ - $\frac{1}{4}$. General: Lassitude—nervousness—headache—nausea—etc. Dose reduced to 1/10.	Note differentiation from lag reaction.
	Lag: No change 3 to 4 days, then improvement. Alarm reaction. Dose reduced ten fold. Note differentiation from response Note differentiation from relapse	

TABLE II
DAILY DIARY FOR PATIENTS RECEIVING INJECTIONS

Your dosage is based upon any changes in pain, stiffness or swelling of joints; therefore, keep diary accurately and bring with you each visit and present to nurse.

Name

Date, number and dose

Same day
First night
Next day
2nd night
3rd day
4th day
5th day
6th day

LIST IN PROPER ORDER ANY CHANGES IN YOUR CONDITION RELATIVE TO THE FOLLOWING:

- (a) Change in pain, swelling, or stiffness (either aggravated or improved).
- (b) Any general symptoms, especially headache, nausea, tiredness, or drowsiness, loss of appetite, irritability or sleeplessness. If there is any improvement in either general feeling or local symptoms, so state. Be sure to note these changes in the proper day following the injection.
- (c) Be certain that symptoms listed, especially those under Group B, developed as a result and were not present prior to injections; otherwise false interpretation may result and delay proper dosage.

TABLE III
A FEW POPULAR GOLD PREPARATIONS WITH FORMULAE AND PERCENTAGE

PREPARATION	FORMULA	PERCENTAGE OF GOLD
Aurol Sulfide (Hille)	Au_2S_2	86% (14% Sulfur)
Solganal—B	$\text{C}_6\text{H}_{11}\text{O}_5 \text{ S Au}$	50%
Lauron	$\text{C}_6\text{H}_5\text{NHCO CH}_2 \text{ S Au}$	54%
Gold Sodium Thiosulfate	$\text{Na}_3\text{Au}(\text{S}_2\text{O}_3)_2 \cdot 2 \text{ H}_2\text{O}$	37%

Note sulfur radical in all

then switching to the mixed, we advise beginners to start with the mixed. It is simpler and only a few cases will manifest sensitivity sufficient to require a test with each organism separately. In these few cases, it has been interesting to note that invariably the staphylococcus was the culprit.

VACCINE COMBINED WITH OTHER MEASURES

Six years ago, when beginning the use of Crowe's vaccine, the first 125 cases were controlled and received the vaccine as their major therapy.⁴ Results of this observation were convincing and henceforth the vaccine has often been combined with other established measures, hoping that synergy might produce additional effective results.⁵

In the study vaccine has been combined with gold, sulfur, physical therapy, fever therapy, and para-amino-benzoic acid.

During the observation period, two phases of special interest have presented themselves. The first is a conviction that better results and much less reaction with both gold and sulphur can be obtained, if the same concepts of dosage are applied as advocated for the vaccine. For example, the observation has led us in the case of gold to giving it once weekly or even every two weeks, when it is used in combination. The clinical response is equal or even better than by conventional technic, and our adverse reactions have reduced to almost extinction. The second brought personal

contact with the Medical Research Department of Mulford Laboratories which is revealing most interesting indications relative to sulfur metabolism in the body; its close proximity to gold formulae effective in arthritis (See Table III), and its relation to the adrenal cortex and other endocrine systems. Sulfur may well occupy a position in the realm of ACTH and cortisone links.

GENERAL SUMMARY—CLINICAL RESULTS

In our experience Crowe's vaccine stands out as first choice of any single measure in the management of rheumatic disease. Its value will, however, be in direct ratio to the amount of attention paid to the basic concepts and technic in its use. When lack of response is evident, then combination with sulfur, gold, physical or fever therapy has shown a definite gain in symptomatic relief. Cortisone, while only observed by us for a short time, has proven itself, at least temporarily, superior in the true rheumatoid type. It has not equalled the other measures in either the mixed or non-rheumatoid cases. Physical therapy is a valuable adjunct in many cases. When indicated it should be used in combination with other selected measures. Fever therapy, by electromagnetic induction, in short sessions, will often supplant other physical measures when many joints are involved. As a specific, it has shown no value in our hands except in arthritis of gonorrhreal origin.

CONCLUSIONS

1) Crowe's vaccine presents a well tried and valuable measure at the hands of the general physician to combat rheumatic disease.

2) The importance of the basic concepts as to dosage needs be emphasized and reemphasized.

3) When lack of response to vaccine is evident, then combined management is indicated and valuable.

4) Phases of special interest regarding sulfur and gold are discussed.

5) Cortisone, while superior in the rheumatoid type, has not equalled other measures in mixed and other types of arthritis.

—1150 S. W. 22nd Street, Miami

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EVERYBODY WHO GOES IN OR ON THE WATER READ THIS

SAFE SWIMMING depends on keeping calm, says Stephen Baker, Water-Polo Expert, and holder of the Red Cross Water Safety and Life-saving Certificate.

This expert offers sound advice which, put into effect, will save many lives.

Fat and air in the human body make 90 per cent of men and practically all women buoyant enough to stay afloat with little effort and without any knowledge of swimming.

Find out about your buoyancy and see which part of your body tends to sink first. If you are leg heavy, concentrate your efforts on keeping the lower part of your body up by using your legs. If your head goes down first, use your arms.

Learn to hold your breath under water. Almost anyone can hold his breath for a minute or so, and with a little practice can increase this figure to two minutes.

Water pressure is dangerous only at great depths. With practice, most swimmers will be able to submerge to 10 or 20 feet and swim 25 to 75 feet under water.

Another point to remember is not to let the waves frighten you, as this is one of the most common causes of uncertainty among unskilled swimmers. Even one skilled at swimming in the quiet water of a pool may become panicky in open water when waves are apparently running against him. Alarmed by the illusion that he is being carried away from shore, he becomes terror-stricken and either struggles until he is exhausted or finds himself paralyzed by fear. Waves travel on the surface of the water, just as they do on the surface of a field of wheat, but neither the water nor the wheat travels. Fix your gaze upon some stationary object and you will see that you are making progress as long as you are swimming.

A small boat is no place in which to exhibit acrobatic talent. Choose your seat and keep it. If you must change with someone, do it carefully, with the least rocking possible.

Don't go swimming from a boat unless it is attended or anchored.

A good life preserver costs about the same amount of money as a bottle of liquor. Yet you would stand a good chance of doubling your money on a bet that you can find more small boats equipped with spirits than you will find equipped with life preservers.

Do not get into any boat unless it is equipped with the means of saving your life.

A good life preserver tied securely around the body will support an adult in the water from 15 to 20 hours.

I place economy among the first and most important virtues, and public debt as the greatest of dangers to be feared. . . . To preserve our independence, we must not let our rulers load us with perpetual debt. . . . We must make our choice between economy and liberty or profusion and servitude.—Thomas Jefferson.

PRESIDENTIAL ADDRESS

From P. 67

profession is in OUR hands. What shall we do with so great a responsibility?

In the words of the GREAT PHYSICIAN, let us promise our patients that when we go, we will NOT LEAVE them COMFORTLESS but will send another comforter, even a family doctor.

Editor's Note: At the special request of the speaker, this address is put into type as supplied in MS, without the customary editing.

Rabies and the Doctor

BEN F. WYMAN, M.D., Columbia
Secretary South Carolina State Board of Health

Take a large quantity of ignorance and a great deal of antiquated misinformation; mix with a liberal portion of fear, a considerable amount of sentiment, and not too much good judgment; season with a little selfishness and a generous dash of panic; sift well together, and expose for many years to the hot fire of prejudice. There you have the recipe of a common state of mind with respect to the disease known as rabies.—*W. W. Bauer*.

THE PROBLEM of rabies is worthy of our earnest consideration. Over 3,000 people in South Carolina have been provided anti-rabic treatments at no cost by the State Board of Health. Farmers and others lose many valuable animals, such as dogs, cows and horses, by reason of rabies.

Rabies is an acute infectious disease caused by a filterable virus, affecting warm-blooded animals including man. It is primarily an infection of the canine genus, especially dogs. The infection in man is secondary usually to the bite of a rabid dog.

Rabies is a disease of great antiquity and was probably a dreaded disease of animals before the opening of recorded history. Plutarch said that it was observed in mankind by the descendants of Aesculapius. It is reported that the son of Aristaeus died of the disease in the thirteenth century B. C. Aristotle stated in the fourth century B. C. that "dogs suffer from madness which puts them in a state of fury, and all animals which they bite when in this condition become also attacked with madness." Celsus, in the first century A. D., was the first to give a good description of the infection in man, using the term hydrophobia. Galen, in the third century A. D., described the disease as follows: "Hydrophobia is a disease that follows the bite of a mad dog and is accompanied by an aversion to drinking liquids, convulsions and hiccoughs. Sometimes maniacal attacks supervene." It was introduced on the North American Continent in the middle of the eighteenth century and has, insidiously, continued to exact its toll from the public health, agricultural economy, and wildlife conservation of the United States.

The epidemiology of rabies is that all warm-blooded animals are susceptible. It is world-wide in distribution. Primarily, rabies is a disease of the canine family (dogs, wolves, foxes, coyotes, hyenas, jackals). These are animals that are fond of fighting and biting; thus rabies is readily disseminated. About ninety per cent of human rabies arises from a canine source, but occasionally man is infected by cattle, horses, cats, squirrels, vampire bats, etc. We have the example in South Carolina of a rabid

fox biting a young boy in the face, the boy dying as a result.

That rabies is a summer disease is a fallacy dating back to the days of the theory that the movement of the planets produced disease. Climate and seasons have no influence on its occurrence. Figures from different parts of the world show there is little variation in the seasonal prevalence of the disease. The last quarter of the year, however, shows fewest cases. There is probably a certain degree of natural resistance to rabies, since only about fifty per cent of dogs and ten per cent of human beings contract the disease when bitten by a rabid animal.

The pathological lesion of the disease is the typical so-called Negri body found in the central nervous system. The virus produces an acute infectious encephalomyelitis, and the virus may be found in the saliva, salivary glands, and central nervous system. The organism may be present in the saliva of a dog three to five days before the appearance of symptoms.

Clinically, the disease in man is not unlike that in animals. Both the dumb and the furious types occur. The incubation period may vary from fourteen to ninety days, according to the location and extent of the wound. In badly lacerated head and face wounds, symptoms may appear in as short a time as ten days after the infliction of the wounds. Many persons bitten by rabid animals escape the disease without even treatment. In the furious form of the disease there is increasing irritability, excitement and frequency of convulsions. The irritability may be so extreme that even the slightest motion brings on a convulsion. Spasm of the laryngeal muscles in efforts to swallow causes a fear of drinking any liquids, from which the disease gets the name, hydrophobia. The patient is usually well oriented between attacks of convulsions until a few hours before death. Patients have an anxious, terrified facial expression between convulsions. In the dumb form of rabies there is drowsiness, difficulty in swallowing, and paralysis, particularly of the lower jaw. Once rabies is contracted, the ultimate outcome is death.

Means for the control of rabies have been known for nearly one hundred years. The successful application of control methods has been demonstrated repeatedly in many countries and parts of the world. Education, quarantine of dogs, and mass immunization are keys to the solution of the rabies problem. All three measures are necessary for effective control. Effective control of the dog, particularly the stray dog, with immunization of all

dogs, will control the occurrence of the disease in the human. Vaccine for the immunization of animals is of proven value at the present time and gives excellent protection to dogs that are inoculated with sufficient vaccine at intervals of ten to twelve months. The vaccine for animal immunization has been improved over the years and there has been developed an avianized (egg-yolk) vaccine that promises to protect animals much longer than the presently-used killed-virus vaccines. This improved vaccine is being given laboratory and field tests and it is expected that its effectiveness will soon be known. Within the present month, the final determination as to the effectiveness of this vaccine will be made by a series of controlled evaluations. Up to the present as many as 50,000 dogs have been so protected, and the material has been released to competent veterinarians for clinical use and study. Annual immunization of dogs is a difficult procedure with which to get public compliance. The development of a vaccine which will afford protection for a longer period will make the control of rabies in dogs much more effective. Wild-animal rabies is not an important factor in the transmission of human rabies, although it may be a factor in animal rabies.

The problem that confronts us as doctors is, when should a person be given antirabic treatment and which persons may be advised not to take the treatment?

Rabies can be transmitted from the rabid animal to man only by the direct inoculation of fresh saliva through the skin deep enough to come into contact with nerve tissue. Such inoculation only occurs naturally from wounds or bites made by the teeth of the rabid animal. This is the *direct exposure*. *All other exposures are indirect and should be disregarded.*

"As it applies to the management of human exposure to rabies, a rabid animal is defined as one which (1) is proved to be rabid by laboratory methods; (2) is clinically rabid by veterinary diagnosis; (3) disappears after biting and cannot be located subsequently; (4) bites without provocation and is killed before confirmatory brain lesions have had time to develop." It has been determined that the smear examination of brain tissue for the Negri bodies has a 10 per cent error, and it is recommended that, in all cases where the history of a rabid animal and a bite has been recorded, the mouse test be carried out.

For all direct exposures—that is, tooth wounds made by rabid animals as above defined—antirabic vaccine should be administered in amounts prescribed by the laboratory to suit the degree of exposure.

The vaccine also may be indicated for children in contact with a rabid animal but too young to

give reliable testimony.

In cases of severe face wounds or deep and multiple lacerations about the hands, the vaccine treatment may be supplemented by hyperimmune serum which recently has become available. The possible prophylactic use of hyperimmune rabies serum has been recognized for many years. More recent experimental work employing preventive procedures has shown the superiority of hyperimmune serum, especially when combined with a course of vaccine, and the use of vaccine alone, after exposure to peripherally introduced street virus. The use of highly potent hyperimmune serum preceding a course of vaccine in which a short incubation time does not allow a sufficiently long period (three weeks with vaccine) for the development of active immunity. Hyperimmune serum combined with vaccine offers the best promise in preventing rabies after severe exposure, such as lacerated face wounds. By the use of hyperimmune serum much valuable time can be gained, and it is suggested that this procedure always be undertaken when there are severe lacerations, particularly about the face. It is not believed from a scientific viewpoint that, at this time, this use is all that is needed to prevent rabies, but rather that the use is of such definite value as to the slowing down of the virus and the toxins that unquestionably it is of great significance.

As a first-aid precaution, all animal bites should be washed immediately and thoroughly for 15 to 20 minutes with a strong, warm soap solution. This can be done at home by the patient or family immediately, while awaiting the doctor.

The protective value of the vaccine for rabid animal bites is unquestioned and should be used without hesitation. But the physician should bear in mind that occasionally the vaccine itself may cause reactions. The most important type of reaction is vaccine paralysis which, while rare, is often serious and sometimes fatal. "Therefore, the vaccine should not be used for indirect exposures or under circumstances such as:

1. Contact of saliva with the unbroken skin anywhere on the body, including face or mouth.
2. Contact of saliva with preexisting wound already scabbed over.
3. For tooth wounds through clothing which is not torn.
4. Handling or petting the suspected animal but not bitten.
5. Handling objects contaminated with saliva.
6. Drinking the milk of rabid cows or goats.
7. If the biting animal is still alive and normal one week after biting.
8. Merely to satisfy the anxiety of parents or family but otherwise not indicated.
9. For persons previously treated, the vaccine

retreatment, if used at all, should be limited to not more than six doses."

Not all situations of human exposure will fall in the categories as herein outlined; nor will the physician be able to cope successfully with every case of anxiety complex. But he should bear in mind constantly that antirabic vaccine of itself can cause serious complications and, therefore, that it should not be used unnecessarily.

A statement should be made as to control programs, hence, I quote from the committee of the World Health Organization as to certain recommendations. "The committee recommends that the following specific measures be applied in affected regions:

1. Registration, licensing and taxation of dogs
2. Elimination of stray animals
3. Restraint of dogs while the control campaign is under way
4. Mass vaccination of dogs.
5. Provision of adequate facilities for diagnosis
6. Reduction in number of wildlife species where these are a reservoir of the disease
7. A continual and energetic publicity campaign."

We, in South Carolina, are largely guided by a State law which provides for the carrying out of these recommendations and, on a State-wide basis, we believe that considerable progress will be made in our control programs.

This paper would not be complete unless it said something further about the development and use in humans of avianized virus vaccine. This vaccine contains active virus, modified and attenuated by passage in developing chick embryos. It is followed by no undesirable reaction, whether used in humans or in dogs. It is non-mammalian in origin, hence its use in humans is safe from the chance of the many serious complications which are produced in some cases when mammalian brain tissue is used in the vaccine.

This presentation was begun by stressing the importance of the problem of rabies, and I wish to end by stating that the S. C. State Board of Health Laboratory, in an average year, receives 657 heads of supposedly rabid animals. Careful examination of the brain tissue of these animals, excluding the mouse inoculation test, has resulted in 49.6 per cent of positive findings.

ADDITIONAL REMARKS made in reply to questions from the floor:

After a patient has taken the full vaccine treatment, the question is often presented as to procedures when the person, so treated, has been re-bitten. If three months or less have elapsed since completion of the course of vaccine, no further treatment is necessary. If three to six months have elapsed, two or three weekly doses should be used

for a booster effect to the original vaccine. Over six months after treatment, an entire series of vaccine should be used for treatment.

Dog-catchers, who can handle rabid animals, are available in most of the large cities and in some counties. They are specially trained and can handle any type of dog without danger to themselves. It should be stressed that, in the destruction of animals, the heads should not be injured, such as by gunfire. The head is where we get specimens of the brain to determine whether the animal is rabid. In the case of the heads, it should be stressed that they are being sent to the laboratory for special consideration and the brain tissue must not deteriorate. Every head that is to be examined should be carefully iced or frozen and sent to the laboratory as soon as possible after the destruction of the animal.

It is believed that, in every case of rabies in an animal, such animal will die within a short period of time, certainly within ten days. This animal should be carefully confined, for even if he is sick with something other than rabies and disappears, perhaps is killed, the only thing to do is treat all persons who have been bitten by such animal.

In our State law, the statements are made that, if an animal is attacked by a rabid animal and no previous inoculation has been provided, such bitten animal shall be carefully confined for a period of six months. However, if such bitten animal has been properly vaccinated within the previous twelve months period, he shall be confined for a period of only three months.

The care of valuable dogs, which have been bitten by a known rabid animal, has been much discussed by doctors of veterinary medicine, and it seems to be a reasonable conclusion that all such animals should be inoculated or treated by intraperitoneal injections of 10 c.c. to 20 c.c. of vaccine. It is to be noted that this is two to three times the original preventive inoculation. The dose should be repeated over the second day until four or five such treatments have been carried out. This is subject to controversy, but is given here as some evidence of the present-day thinking. Again it is stressed that it is essential that a dog suspected of rabies be confined in order to conform to the above statements.

Judging from such statements and questions, it seems possible that many, some even of the profession, still believe that a person may have rabies many months, or years, after being bitten. This is not true. We believe that ninety days is the maximum time in which rabies may develop.

Note: The material for this presentation came from many sources, including the World Health Organization pamphlets, the Bulletins of the Communicable Disease Center of the Public Health Service, especially studies by Dr. Thomas Sellers, Georgia State Health Officer, and from our own records and observations.

DEPARTMENTS

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

SENSIBLE MEANS OF ACCIDENT PREVENTION

ODINARILY we think of crippled children as those damaged by polio, arthritis, rheumatic heart disease. Rarely considered is the cause which accounts for more deaths than the next six common causes of death combined, and more permanent crippling than any of the five mentioned. Accidents, the number-one killer of children, destroy 12,000 children annually in the United States; it is variously estimated that accidents result in permanent injury to between 30,000 and 50,000 children in this country each year. These permanent injuries include loss of vision, loss of substance or function of arms and legs, inability to swallow because of internal burns from caustic substances, and all the hideous scars to skin and psyche that are caused by external burns. Accidents are largely preventable.

Surely every doctor who has read thus far into what Dietrich¹ says on this subject will go on, and will profit by what he reads.

During the first year of life, before an infant can duck, dodge or run, it is at the mercy of its custodians. If it is burned, drowned, mangled, crushed or poisoned it is because it has not been given proper protection. The prevention of crippling accidents in this age period is easy. At five years of age, school and play take the child away from the protective devices of the home, and only what it has learned will accompany it. In the four short intervening years the completely protected, totally dependent, one-year-old infant must be transformed into a secure, self-confident school child armed with safe behavior. This rapid change is not accomplished by chance, nor by edict in the last six months. Before we can reason and debate with our eager offspring we can help them learn through minor painful experiences. The run-about child of 18 months can and should begin to acquire a back-log of experience that will introduce him to concepts of pain, heat, gravity and non-edibility. While protecting him against serious and lethal hazards we can permit and even encourage him to learn cause and effect of ever-present minor hazards. We must constantly refrain from robbing him of the educational value of his minor discomforts—refrain, that is, by not rewarding such learning pains with kisses and cookies.

1. H. F. Dietrich, M.D., Children's Hospital and Department of Pediatrics, University of Southern California Medical School, Los Angeles, in *The Crippled Child*, Feb., 1951.

Translated into practical suggestions, consider the problem of prevention of burns in the 18-month-old infant. He must be *protected* against serious burns by not being allowed near the stove (in use or not), or open flames. Further protection should be provided by removing from his almost unlimited reach matches, table lighters and caustic substances. Vaporizing paraphernalia should be placed and guarded with as much caution as a dynamite charge. Electrical connections should be made inviolate, either by physical restraint, discipline or safety devices. This is all protection. And it's good, but it's not enough. There is no child so vulnerable to accidental tragedy as the over-protected one. Slowly, and in graded doses, we must permit and encourage him to learn about "hot" and "burn." Instead of forbidding him (which teaches him nothing but resentment) to touch commonplace hot objects, we should simply and objectively state, "That is hot; if you touch it, it will burn you." He does, it does, and a valuable lesson is learned. Interestingly and yet naturally, the parent gains stature in the child's eyes because of the parent's prophetic ability, and on future occasions the parents' opinion is accorded greater respect.

Later lessons become more complicated and more interesting, but throughout they should be presented from an objective cause-and-effect standpoint, rather than from a moral one. "Good boys don't . . ." is an invitation to do! The application of the theory of accident prevention needs just three tools: forethought, time and discipline. Forethought requires that the intellectual interests and physical abilities of the child be anticipated. A physician's advice, by telephone or book, might be helpful but it isn't necessary. The answers to the following questions will in turn suggest anticipatory accident prevention action. What does the child like to do? What can the child do (physically)? What hazards will his wants and his abilities bring within his reach?

If a small fraction of the time that is wasted on fruitless worrying about unpreventable and minor physical threats, or a portion of the time that is wasted teaching too young children superficial social graces, were spent on accident prevention we would annually save thousands of children from permanent crippling. Accidents constitute the greatest single threat to the lives and health of our children. If there isn't "time to think of everything," then choose: Do you want curls and curtseys, prettily-painted toe nails, clean-eared boys, infants who parrot an inane "ta-ta," and children who have "beautiful bowel movements," or do you want self-confident, living, unscarred children who are secure in the knowledge that their parents will not allow them to do any truly injurious act?

Discipline, the third tool, must serve where reason cannot. Mild, consistent, logical discipline is as necessary to a child's sense of security as it is to his life. It may be administered by a glance, a word, an act of deprivation, a tone of voice, or the proper application of a dispassionate hand.

Accidents kill and cripple more children than any of the usually feared diseases. But accidents should be fought—not feared. The problem is unique in two very important ways:

First, safe behavior, like any other form of behavior, grows out of early parent-child relations. The ultimate and difficult responsibility for accident prevention rests on the parents; no amount of money or moaning will ever produce a single, easy, accident-prevention injection.

Secondly, the field of accident prevention in children offers an opportunity for non-medically trained persons to contribute to the solution of the greatest single child health problem by organizing and stimulating community effort in child accident prevention.

HUMAN BEHAVIOUR

REX BLANKINSHIP, M.D., *Editor*, Richmond, Va.

THE CHRONIC SITUATION

Presidential report at the 14th annual meeting of The Mental Hygiene Society of Virginia, held at Old Point Comfort, on February 18th-19th, 1951.

THE FIRST INSTITUTION designed solely for the care of the mentally ill was opened at Williamsburg, Virginia, in 1773. At this time an appropriation of 25 pounds sterling per annum, per patient, for maintenance was allowed. Consider the fact that professional services were at a minimum in those days and compare this maintenance allowance with that of today—nearly two hundred years later (remembering of course the value of the dollar today). In 1951 the maintenance allowance is \$184.00 per annum per patient. This includes, or is supposed to include, professional services. We must shamefully admit, I believe, that the maintenance allowed was more liberal nearly two hundred years ago than it is today. How can we accept such a fact? In 1880, 71 years ago, the National Association for the Protection of the Insane and the Prevention of Insanity was organized. Their objectives were stated as follows:

1st: By the encouragement of special and thorough clinical and pathological observations of the medical profession generally, as well as (of) those (doctors) connected with asylums.

2nd: The enlightenment of public sentiment as to the nature of the malady, the means of prevention, the importance of early treatment, improved methods of management and treatment at home and abroad.

3rd: By recommending an enlightened State policy, which, while neglecting no one of its insane population, shall so administer relief and protection as not to lay un-

necessary burdens upon the taxpayers.

4th: By holding public meetings, wherever needed, to stimulate legislation that will secure efficient State supervision of all public institutions for the care of the insane, as a mutual safeguard for the protection of society—the patients, as well as those who have them in charge.

5th: To further the protection of laws relating to the treatment of the insane, and their rights, while patients in the asylum.

6th: By efforts to allay the public distrust in relation to the management of insane asylums, by placing them on the same footing as that of other hospitals, both in the matter of freer communication with the outside world, and the privilege of a consulting medical staff of general practitioners.

It seems that in the field of mental hygiene objectives have remained fairly constant. What has the actual progress been? I can cite a few very important instances of progress, but have these been enough?

Many facts and figures have been presented in recent years regarding the mentally ill in the nation and our need for preventive programs, for improved care and treatment, etc. What has been done about these recommendations? Many members of medical societies have actively promoted these studies and participated in them. Progress has been made in bringing the facts before the public, by programs in schools, churches and various organizations via means of the radio, moving pictures, publications and distribution of special literature.

The important consideration now is action—action on the basis of the facts we have on hand. We must admit first that we are dealing with a chronic situation, a chronic public that has virtually succumbed to the passive acceptance of the facts and the chronic situation. The basic approach to chronic diseases must be preventive. Otherwise the problems created by the chronic disease will grow larger with time, and the hope of any substantial decline in their incidence and severity will be postponed many years. In some way, or by some means, we must make this chronic situation an acute problem, an emergency. Right now we are witnessing a mobilization of strength for civil defense. You will witness, I am sure, a universal response and support of such a program, designed to meet an emergency. It seems that we nearly always rise to the occasion when an emergency develops.

I believe this chronic situation can be dealt with by,

1st: Promoting a fund-raising campaign to support one or more full-time mental hygiene workers. Volunteer work is not adequate to meet the present need, which continues to be a better integration of our present organization.

2nd: By promoting an intensive legislative program, not only to get the facts before the public but to get action. We have juggled the facts long enough: we can and must get our legislators to act

upon them.

3rd: By campaigning for the allocation of the funds now being paid in the form of fees for hospital care to the hospital budget, instead of being turned back to the general fund. This will enable the hospital to meet some of the emergencies that arise almost daily.

4th: By capitalizing on our publicity program during Mental Health Week—May 2nd-May 9th—and that we emphasize to the public and to other organizations the overall coverage of mental health. Once we have good mental health, there will be no occasion for a "Be kind to dumb animals" week.

Another important consideration is the sponsorship of a program for the custodial care of the aged. As you know, the State Hospital population of the aged is gradually increasing and reliable statistics indicate that the increase will continue. This is another chronic situation that is acute.

I know there are many urgent needs. There are many pressure groups. There are many very important issues that I have failed to mention. However, as I see it we only need to oil up our machinery and get into high gear and do something about it. Each day should start with fresh resolutions and actions in some way. Mental hygiene is a daily program, not one day a year at the annual meeting. Let me remind you again to direct your energies toward making our chronic situation an acute one.

SURGERY

W.M. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

HEREDITY AND CANCER

A TEXAS GROUP who have been carrying on extensive investigations into the mysteries of cancer offer instruction on this much debated subject.¹

A few types of cancer and potentially cancerous lesions are generally recognized as strongly hereditary. Retinoblastoma, multiple neuro-fibromatosis, and multiple polyposis are thought to be inherited; and polyps of this type are generally regarded as precancerous lesions. The inheritance in xeroderma pigmentosum is peculiar in that each sex chromosome, in either a boy or a girl with the characteristic, has the recessive gene responsible for the potentiality.

The significance of heredity as a factor in occurrence of other types of cancer is more in dispute.

Monozygotic twins come from the same fertilized egg and are therefore identical genetically. They should always be alike for any characteristic which is conditioned solely by heredity. Differences between such a pair are suggestive of environmental effects. Dizygotic twins are derived from dif-

ferent eggs. They should on occasion have the same genes and characteristics in common, just as two sisters or two brothers are sometimes alike. However, they can also differ widely from each other, either because they received different gene combinations from their parents or because their environments differed. Comparable sets of the two types of twins can be used to study the relative effects of environment and heredity on characteristics.

Macklin has collected the records of many twin pairs in which one or both partners had cancer. In 60 per cent of the monozygous twin pairs, both had cancer. This was true for 44 per cent of a small group, and these members have the advantage of being forewarned. Indeed, the informed physician is in position to warn certain apparently normal people of their hereditary susceptibility to cancer—a relatively rare situation in medical practice. But rare situation that it is, it can save many lives.

It is gratifying and encouraging to see research group after research group abandon the dogmatic "cancer-is-not-hereditary" attitude, and come over to what ordinary doctors have known all along—that persons who have many cancerous antecedents are much more liable to have, and to die of, cancer, than are those persons among whose ancestors cancer has seldom appeared.

PROGRESSIVE ULCERATION OF THE ABDOMINAL WALL— AMOEBAIASIS CUTIS

(O. B. Hunter, Washington, in *Miss. Val. Med. Jt.*, July)

Postoperative gangrenous ulceration of the abdominal wall and chest occurs more frequently than is indicated by the reports. This ulceration is probably the same as amoebiasis cutis and pyoderma gangrenosum. A careful search should be made for amoeba histolytica by appropriate methods, together with study of the secondary bacterial contamination. Antibiotic and amebicidal therapy with early widespread extirpation of the involved areas with the actual cautery is the best mode of treatment.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

HEART DISEASE

Condensations of a series of articles in *The Rhode Island Medical Journal*, January.

A PRESENTATION of rare value covering lightly many of the aspects of heart disease is here made. It is to be noted that what has been proved to be true is not confused with what is hoped to be true. Every reader may here learn much of great helpfulness to his patients.

PREVENTION ASPECTS¹

German measles in a woman during the early months of pregnancy is a causative agent in certain cases of congenital heart disease. In a closed

1. *The Cancer Bulletin* (Texas Ed.), May-June.

1. J. B. Rutstein, Boston.

community, such as a girls' school, it is probably best that an outbreak of German measles be not controlled, thus letting the girls have it while young and non-pregnant. Exposure of pregnant women to German measles should be vigorously prevented. When a woman in the early months of pregnancy develops the disease, interruption of pregnancy has to be considered.

Luetic heart disease can be completely prevented by early and thorough treatment of all cases of primary and secondary lues. That due to hyperthyroidism is easily preventable by early recognition and treatment of thyroid disease.

The rare hypertensive forms, secondary to other conditions, should be recognized and treated if possible by removal of the pheochromocytoma or ovarian tumor, or by treatment of unilateral renal disease, irradiation of pituitary tumors, or by the surgical correction of coarctation of the aorta. By preventing obesity, or weight reduction when obesity has developed, some cases of hypertensive heart disease could perhaps be averted.

By preventing obesity and treating the hypothyroidism which is found in a small number of patients with arteriosclerotic heart disease some progress might be made.

Constrictive pericarditis is preventable by early recognition and by referral of the patient to a capable surgeon.

Special effort should be made to prevent beta hemolytic strep. infections, in both non-rheumatics and in patients with a previous history of rheumatic fever. Many adults with far-advanced rheumatic heart disease give no such history; also the severity of the valvular damage does not correlate with the number of attacks of rheumatic fever, but does correlate with the length of time since the first attack. Certainly in a hospital steps should be taken to prevent cross infection.

Ten days of penicillin should be given to patients with scarlet fever; to patients with diseases known to be caused often by strep, such as otitis media; to any person who has a suspicious infection and who gives a strong family history of rheumatic fever; and to patients with sore throat, fever, edema of pharynx, exudate on the tonsils, and adenopathy, since at least 70 per cent of these are due to hemolytic strep.

In the patient with known rheumatic heart disease, treatment of a prophylactic nature should be given during tooth extraction, minor operations and childbirth to prevent the possible development of SBE.

TREATMENT OF HYPERTENSION²

The finding of repeated elevated diastolic readings is required to make the diagnosis of hypertension. Pheochromocytoma and coarctation of the

aorta must be excluded: the latter is usually easily excluded by feeling the femoral artery pulsations.

In hypertension overtreatment is worse than undertreatment. Elevated b. p. does not kill people, but associated arterial disease does. Two-thirds of the headaches and one-third of the cases of retinitis improve without intensive therapy. Papilledema is the worst prognostic omen.

Great tact is essential. The truth is not discouraging—hypertension is usually of 15-20 years' duration. Forbid irregular peaks of exertion, and allowing the emotions to get out of control. Alcohol in moderation need not be prohibited; tobacco should be, unless the patient is worse off without it than with it. In the pregnant hypertensive woman each case has to be judged on its merits.

Generally speaking physical examinations of patients with high b. p. need be done only every 6 months to one year. Thirty per cent have no headaches; 6 per cent are incapacitated by them. Sedates are necessary in some cases, coffee helps others. Elevation of the head of the bed, phlebotomy, and lumbar puncture are other relief measures.

Treatment of the disease for the most part is sympathectomy and the low-salt diet. The decision for either of these should usually be made by the patient after he has been presented with all the facts. Sympathectomy requires several weeks in the hospital. In the majority there is some b. p. drop, but after five years only 25 per cent still have a lowered b. p. Organic renal damage is unchanged. Sympathectomy is most valuable in the early malignant hypertensive. Weight reduction alone in the obese often strikingly lowers b. p.

EARLY MANIFESTATIONS OF CONGESTIVE HEART FAILURE²

Congestive heart failure may occur when the work required of the heart exceeds its capacity, or when the ability of the heart to work is reduced.

Added burdens which may precipitate heart failure are unusual muscular exertion, anxiety, fever, tachycardia, anemia, infection, pregnancy, obesity and cough.

Gallop rhythm and alternation of the pulse are useful early signs, also dyspnea or fatigue on exertion, insomnia and annoying cough.

As the failure progresses, orthopnea appears, often a sense of exhaustion, weight gain and slight edema. Abdominal pain due to congestion of the liver, usually a late symptom, may appear early, especially in right-side heart failure, such as with mitral stenosis. Later, inadequate respiratory excursions, pulmonary rales, pleural effusion, venous distention, hepatomegaly, ascites, edema, delirium, and Cheyne-Stokes respiration.

The ECG is not very helpful.

The main conditions to differentiate are chronic 5. C. S. Burwell, Boston.

lung disease, renal disease with fluid retention, and psychoneurosis.

Digitalis, oxygen, reduction of sodium intake, diuretics and sedatives are the most effective remedies.

ANGINA PECTORIS⁴

Some patients develop prolonged severe angina yet never have the typical ECG changes, the fever, leucocytosis and elevated sed. rate to substantiate a diagnosis of myocardial infarction. Since such a picture may be prodromal to infarction, treatment should include five to seven days' bed rest and then two to three weeks of restricted activity.

In angina pectoris restrict activity, avoid emotional strain, dress warmly in cold weather, take six small meals a day. Have the patient refrain from tobacco for three weeks to see if he improves. Alcohol in small amounts seems beneficial. Nitroglycerine is useful to prevent and to relieve pain.

Anemia and thyrotoxicosis may produce "curable angina." Angina of syphilitic aortitis may disappear after bismuth subsalicylate twice a week for three weeks, and then 600,000 u. of procaine penicillin G daily for 10 days. Arrhythmias may also produce angina and are usually correctable.

Surgical operation only when absolutely necessary, then as short as possible, a minimum of atropine and narcotics; O in high concentration routinely post-op. Ether is a good anesthetic for these patients; spinal anesthesia should not be used. IV fluids and saline with care, to an output to 1500 c.c. daily. Blood should be given before the b. p. falls. Soon after operation the patient should raise mucus. It is wise to give $\frac{1}{8}$ to $\frac{1}{4}$ gr. of morphine two days preoperatively to determine the effect: if excitement is produced, another drug should be used preoperatively. Epinephrine in local anesthetics may cause angina, arrhythmias, or myocardial infarction in these patients. Pituitrin, ergot, and prostigmine are contraindicated. Alcohol injection of nerve fibres from C₈ to T₅ has been used successfully in numerous cases.

4. H. L. Blumgart, Boston.

RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE⁵

The diagnosis of acute rheumatic fever is not easy. The major manifestations include arthritis, carditis, chorea, subcutaneous nodules (present in 12-15 per cent), and a history of previous rheumatic fever. The diagnosis of carditis does not include ECG changes but is made on one or more of the following: an increase in heart size, murmurs, pericarditis, or evidence of heart failure. Two characteristic murmurs are a high-pitched apical systolic murmur usually heard all through systole and uninfluenced by position or respiration and usually heard also over the left lower lung field posteriorly,

5. T. D. Jones, New York.

or the early blowing diastolic murmur along the left sternal border—the murmur of aortic insufficiency. The right side of the heart is apt to fail in the young patient long before the left. Chorea, if it appears alone at first, is followed later by other evidence of rheumatic fever in 75 per cent of cases.

Minor manifestations include low-grade fever, which is unimportant in the diagnosis unless other features are: bleeding tendencies, especially epistaxis; precordial and abdominal pain; pallor, sweating and vomiting.

ECG changes are not especially helpful and are very non-specific, the sed. rate is of some value in following patients, but 50 per cent of patients who develop heart failure have a return of the sed. rate to normal due to the heart failure.

In the future, the incidence of rheumatic fever and rheumatic heart disease should be greatly lowered, and the course ameliorated by vigorous treatment of strep. infections with penicillin and prophylaxis against strep. infections with penicillin by long-term administration of sulfa or penicillin, the use of ACTH or cortisone (the long-range effect of which is at present unknown)—the much greater chance now of preventing or curing SBE, and the use of surgery to correct certain valvular deformities. It is to be remembered that one-third of cases of acute rheumatic fever develops following a silent, clinically unrecognized hemolytic strep. infection.

UROLOGY

MISCONCEPTIONS IN UROLOGY

A MAYO CLINIC urologist, in his Chairman's Address to the Section on Urology of the A. M. A., at its 1950 meeting, took his brethren to task for many and serious shortcomings. Although he chooses the euphemistic word "misconceptions" for his title, the text abounds in relations of errors, faults and shortcomings.

Bear it in mind all the way through that Urologist Cook¹ is talking all the way through to urologists about urologists.

Certain conditions that urologists are called on to treat at times are not properly treated. Misconceptions about causation, interpretation of observations and modes of treatment have led in many cases to poor results which need not have occurred.

Too often in infections of the urinary tract a prescription is written for one of the newer and more expensive compounds when a few pills of one of the old established remedies would be of equal therapeutic value and would cost only a fraction as much.

Urethritis in the male and inflammation of the female in many cases is a result of overtreatment.

1. E. N. Cook, Rochester, Minn., in *Jl. A. M. A.*, Dec. 23rd.

Each year patients with frequency of urination, not accompanied with nocturia or dysuria, are encountered, who have received too much local therapy as well as chemotherapy without benefit. Simple understanding of such a patient's psychological background, with a careful and detailed explanation, enlisting his co-operation in gradually making the bladder hold more urine, will relieve the complaint. Urologists should not become so concerned with the glamor of the surgical aspects of their specialty that they lose sight of the opportunities to help, by non-surgical means, a considerable group of persons—those who in the long run will be most grateful patients.

Urologists are writing about a number of local lesions which are held to be responsible for enuresis. In my experience, and that of my colleagues, seldom if ever has any lesion been found in the urethra to which we could attribute irritation that would cause enuresis.

Recurrent infection in the male infant and small child has been ascribed to the congenital anomaly "posterior urethral valves." At the Mayo Clinic it is rare to find such a lesion. Inadequate and improper chemotherapy is the usual cause of recurrent infection in such patients.

Many urologists engaged in teaching undergraduate and graduate students, when the time comes for the entry of other young practitioners into their communities employ reprehensible measures in an attempt to keep out these young men.

In the past 10 years there has been a noticeable change for the worse, in a way put into words by Dr. N. G. Alcock of Iowa City, an eminent urologic teacher, as "they are knife-happy." Graduate students seem to have little interest in such trivial measures as passing a catheter without hurting the patient or introducing infection. Their attitude is that anyone can pass a sound or a cystoscope, and that transurethral procedures are easy and that their use can be learned at will during the period of surgical training.

In training for specialty recognition, qualification for membership in societies, and presentations at meetings, the surgical aspects of urology have been stressed preponderantly. I would be the first to extol proficiency in urologic *surgery*, but I cannot agree that it holds the supreme position some of my colleagues would lead me to think it should have. The art of medicine is far too profound and complex to be symbolized simply by the act of holding a scalpel.

BREAST-FEEDING STILL FAR SAFER AND BETTER IN EVERY WAY

(F. Charlotte Naish, in *Brit. Med. Jour.*, Oct. 21, 1950)

In 1935 a study of morbidity and mortality in 20,000 breast- and artificially-fed infants found that it was the respiratory disorders which were the most prevalent. Both

breast- and artificially-fed infants remained highly susceptible up to nine months, giving a morbidity rate at that age of twice as much as in the breast-fed, and a mortality rate six times as high.

I have found that not only is the incidence of respiratory infections higher in the artificially fed, but that they recover more slowly. For all infections during the first year of life the artificially-fed infants required five times as many visits from the family doctor.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

A LONE VOICE CRYING IN THE WILDERNESS

IT IS PROBABLY asking too much for the hospital trustees of this country to forget the recent propaganda concerning hospital gratuities furnished by the Federal Government. Nevertheless, I wish to go on record that "you cannot get something for nothing." There are many reasons why this is so, but in this discussion we wish to emphasize three: first, a legal reason; second, a historical reason, and third, an economic reason.

The legal reason is because it is against the law for the United States governing body to give away money without some strings tied to it. Those strings may be and often are cunningly hidden in the phraseology of the application. You may rest assured that a large group of lawyers with great legal experience are not going to lay themselves liable to prosecution in order to give some hospital money. Therefore, they will incorporate somewhere along the line between the Treasury of the United States and the business office of the hospital, a sentence or phrase which will give them some control over the institution receiving the money. Today it is well hidden and cunningly concealed—but manifest on close scrutiny—in the multiplicity of phrases, sentences and paragraphs of every bill concerning health or health insurance.

The historical reason is that givers are classified into two groups—one giving something that belongs already to you or at least not to them, the other one that makes sure that you are morally or legally bound to reciprocate. For the most part, legislators are put in the first class. They cannot give the taxpayers their own money and call it a gift because it does not belong to the politicians to start with. The latter class of so-called benefactors are the five percenters who make you think they are responsible for gratuities from your own treasury. This class of people are probably small in proportion to the first class. If you own nothing, how can you give something for nothing? The economic reason is that the United States Treasury Department has not one dollar in it that does not belong to the taxpayers. How then can someone give you

your own money. They not only do not give you something for nothing but they actually give you much less than you gave them. A taxpayer's dollar from a certain county where a hospital exists dwindles down to a small fraction by the time it is returned to the hospital bed where the taxpayer lies. These estimates have varied from an administrative cost of five cents to thirty-five cents on the dollar. Where and when did the economy of this country express itself through the labor unions in free work? When did any public utility give one kilowat of electricity or one gallon of water free to anyone? It is, therefore, very plain what an absurd idea it is for the Boards of Trustees, who are supposed to be business men of ability, to assume that they are getting something for nothing.

The writer wishes to impress the Boards of Trustees of hospitals that this present-day system of requesting the Federal Government to contribute to their economic weakness and poor management is inviting federal control to the *n*th degree. As soon as an institution begins to lean on gratuities, it immediately starts on the road to pauperism. The Federal Government cannot and never will be able to return the taxpayer's dollar in gratuities of equal value. The trustees themselves cannot put a dollar in the bank and let it remain there without the charge for the custodial service by the bank.

Henry Ford was a great man in more ways than one. He started the first \$5.00 a day payroll, but he insisted that you do not help a man by giving him something, for in so doing you take away something that is more valuable than the thing you give.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

AUREOMYCIN EFFECTIVE IN HERPES ZOSTER

A COLLEAGUE of Binder and Stubbs¹ reported to these gentlemen that a patient in whom herpes zoster had developed while being given roentgen rays, had another condition develop for which aureomycin was administered, and relief of the herpes was dramatic within 24 hours.

With this as a basis, Binder and Stubbs treated four patients who had herpes zoster with aureomycin.

In Case 1 aureomycin was given, 500 mg. q. 6 h. Within 24 hours there was dramatic and complete relief of pain. Within five days the rash was completely gone, and there was no scarring.

In Case 2, dramatic relief from pain was afforded within 24 hours. The rash dried and disappeared within five days.

¹ M. L. Binder & L. E. Stubbs, *Newport News, in Jl. A. M. A.*, Dec. 10th.

In Case 3, moderate relief from pain in 24 hours; rash disappeared within seven days.

In Case 4, dramatic relief from pain within 24 hours and no further elevation of t. Rash subsided within four days. Five days later acute poliomyelitis developed.

HEADACHES

SOME valuable advice for dealing with this common and important symptom, in many cases indicative of grave disease, is given by Wolf.¹ Acetyl salicylic acid and paraldehyde are the safest and most useful drugs for the management of most headaches.

Don't ask the patient with a migraine headache what is worrying him.

There is plenty of time for that later, and he will not appreciate your concern. Pull down the shades, apply cold to the head (vasoconstrictor), and give a small IM dose of ergotamine tartrate. If vomiting is present restrict the oral intake. Soluble phenobarbital will give comfort. Genuine interest and concern on the part of the doctor will reduce the need for medications. In severe status migrainus admit to hospital and keep under heavy sedation until the headaches disappear.

The patient is made to understand that migraine headaches do not mean serious disease such as brain tumor, but they are not to be made light of. A wise doctor can give common sense advice which will greatly reduce the tension, and the headaches may disappear. Do not tell migraine patients their faults, but try to get them to capitalize on their assets. Alterations in the patient's work will frequently help the headaches. A hobby which is absorbing but which does not require great skill will satisfy many of these patients.

Much of what has been said applies to the management of the patient with hypertensive headaches. Ergotamine should not be used, but sedation, mild analgesics, and attention to tension-producing factors. Determination of the b. p. at each visit to the doctor's office accomplishes nothing but increase of anxiety.

The brief muscle-tension headache is rarely a problem and can be easily managed by rest, mild analgesics, and hot applications. The chronic muscle-tension headaches are usually a part of difficult-to-manage psychologic disorders. The liberal use of sedatives, sedative tubs, and a routine of prolonged and intensive physiotherapy to the muscles involved may produce gratifying results.

Don't give morphine to a patient with headache until you are satisfied he does not have an increase of intracranial pressure also.

¹ G. A. Wolf, *New York, in Penn. Med. Jl.*, Jan.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

POSSIBLE HAZARDS OF HIGH-FAT DIETS IN CORONARY DISEASE

Sclerosis of the vessels of the extremities involves mostly the media with very little thickening of the intima, especially in the early stages. Coronary sclerosis starts as a thickening of the intimal layer, and throughout its course, even in its most advanced stages, nearly all of the disease is localized in the intima, with involvement of the media as a late and comparatively unimportant process. The pathologic process then is an atheroma, and the disease is best referred to as atheromatosis rather than arteriosclerosis. Coronary atheromatosis is the only important disease of the coronary arteries. Coronary atheromatosis is the only important disease of the coronary arteries. If the patient has any disease involving the coronary arteries—angina pectoris, coronary thrombosis or myocardial infarction—one can be reasonably certain that one or more of his coronary arteries has atheroma.

There is some sort of connection between coronary atheromatosis and cholesterol metabolism. The atheroma, in its early stages, consists almost entirely of cholesterol. In those conditions in which the level of blood cholesterol is elevated, the incidence of coronary atheromatosis is much higher. Among patients with coronary disease who do not have any of these diseases—myxedema, diabetes, familial xanthomatosis, lipid nephrosis—the blood cholesterol is above normal. It is not established if the lipid content of the diet has anything to do with the deposition of cholesterol in the intima.

Some cases suggest that a diet high in fat and low in cholesterol might be just as harmful as one high in cholesterol. In any case, whether one accepts the cholesterol theory of the induction of atheroma or not, the evidence to date is such that one should proceed with caution in the prescription of high-fat diets to patients with known coronary disease. Since frequent feeding seems to be the effective factor in the ulcer diet, it should be retained, but the diet be constructed so as to be low in fat content, especially low in cholesterol.

Ten patients are presented in whom death followed within several months after starting a diet high in fat. All of these patients had previous coronary disease. In another series of 17 patients with coronary disease in whom peptic ulcer developed, the symptoms of coronary disease became worse within three months after a high-fat diet was instituted.

1. Milton Plotz, Brooklyn, in *J. A. M. A.*, March 5th.

There is no reason to believe that high-fat diets injure persons with intact coronary arteries. A high-fat diet, even if low in cholesterol content, may be harmful. The use of a high-fat diet in persons with coronary disease may be harmful. For such patients, an ulcer diet should consist of frequent feedings with low-fat content.

THE PREDICTION AND PREVENTION OF CORONARY THROMBOSIS

(R. L. Parsons, M.D., Monterey, and J. J. Heimark, M.D., Fairmont, in *Minn. Med.*, Oct.)

A doctor dies at 37 from coronary heart disease; a farmer has a coronary infarction at 34; a buttermaker has a coronary heart attack at 48; a newspaper editor has a fatal attack at 52; a World War veteran suffers an infarction at 53; another farmer, the same at 52—all proven cases. These are by means isolated instances but are selected at random from our small community within a short period of time.

We are here concerned with the factors that produce coronary incapacity, and a high mortality in people in the fourth, fifth and sixth decades. The factors causing a coronary complex in the people in these earlier decades differ markedly from those in the aged. In older people, the primary cause of this trouble is an extensive intimal damage in the coronary arterial tree. Secondary factors are sedentary life, improper diet, and probably disease. In the younger years this initial damage is usually only moderate to minor. Other factors are prolonged nervous tension, the prothrombin time level, diet, and smoking. It is generally conceded that coronary constriction from chronic overstimulation due to high nervous tension, worry, and overwork plays an important role in the foregoing disease entity. Therefore, we shall not add further comment. However, it is different with the other factors mentioned.

In the patients with coronary heart disease whom we have observed, we have been impressed by the low prothrombin time uniformly present; also by the fairly prompt relief of pain in the non-fatal cases when the prothrombin time has been quickly elevated by the use of the anti-coagulants, heparin and dicumarol. The pain did not often recur if the prothrombin time level was sustained at a sufficient height. Pain, however, was most likely to recur following a meal. Knowing of no explanation for this, we ran a short series of prothrombin time levels (Smith bedside whole blood method) on normal individuals immediately before eating and again an hour afterwards.

As a variation, we also ran a series before and after an all-vegetable meal.

These tests suggest diet as an important factor in precipitating the coronary syndrome.

It may be that cigarette-smoking acts not only to constrict the arterial lumen, but, what may be more dangerous, to lower the prothrombin time level.

It is known that a high percentage of people subjected to tension, dietary indiscretions, and smoking, survive into an older age group. There must, then, be some common factor that determines the precipitation of coronary attacks at different ages. We believe this factor to be the difference in prothrombin time level, that this difference in level is a hereditary factor, and that it plays an important role in coronary attacks. Therefore, we believe that coronary attacks are predictable and preventable.

Is it not then reasonable to assume that by routine testing, proneness to coronary disease could be detected and the attack prevented with dicumarol to elevate the prothrombin time to a safe level?

A few hundred selected people tested and followed through the years should establish the veracity of this contention. We believe that such research in prothrombin time levels would be justified in an attempt to prevent the enormous number of deaths from coronary-artery disease.

DRAMAMINE EFFECTIVE AGAINST SEASICKNESS?

1. Yes

(Enid Houghton, in *Brit. Med. Jl.*, Oct. 21, 1950)

I have been a poor sailor all my life. Circumstances have taken me across the North Sea 20 times or more. I was invariably seasick unless the sea was dead calm. Fifteen years ago I tried hyoscine hydrobromide; it improved matters provided I lay still and quite flat the journeys were endurable on a slight sea. If really rough, it appeared to make no difference, and the nausea continued on land up to 48 hours afterwards.

This summer I started the journey on hyoscine and went up to breakfast, where I toyed with a grape-fruit; later I was sick. The stewardess provided me with "dramamine," which sent me to sleep for four hours. Then, although the sea was rougher, I got up perfectly well, and enjoyed a dinner of roast duck, ice with whipped cream, and blue cheese. The sea was worse on the return journey, but, thanks to dramamine I was up and present at all meals the entire journey, and next day on shore I was perfectly well.

2. No

(J. C. Adams, in *Brit. Med. Jl.*, Oct. 21, 1950)

As an inveterate sufferer from seasickness, and a recent ship doctor, I would disagree that dramamine is superior to the hyoscine preparations. In carrying out a trial of this drug, I often found it ineffective or inferior to hyoscine in warding off impending attacks.

In my own case the recommended dose of dramamine was very alarming; a sense of impending doom convinced me that the proof of this pudding lay in the individual, as there are many individual types of seasickness.

DIFFERENTIAL DIAGNOSIS OF LOW BACK PAIN

(Ralph Herz, Key West, in *Jl. Fla. Med. Assn.*, Nov., 1950) A discussion is offered of the differential diagnosis of low-back pain, based on a study of 281 consecutive cases. Among the causes of low-back pain in this series were:

Post-traumatic cyst pressing on sciatic nerve....	3
Disrupted intervertebral disk (2 also had sub-fascial fat hernias)	6
Tuberculosis of spine	1
Fractured coccyx	2
Incomplete fracture of lumbar spine	1
Spondylolisthesis (roentgen diagnosis)	3
Sacroiliac dislocation (roentgen diagnosis)	3
Retrocecal appenditis	3
Renal calculus	2

The number of cases of painful nodules and subfascial fat hernias in this series is high, because many patients are referred to Hertz because of his special interest in this condition. When painful nodules are systematically looked for, they are found in increasing numbers; and any patient who has had persistent low-back pain should be subjected to investigation as to nodules. If such nodules are found, the relief obtained from anesthetic injections, and, in the more severe cases, from surgical removal of subfascial fat hernias, is striking.

Dr. H. W. Virgin, Jr., Miami, in the discussion:

Many causes of back pain may exist in the presence of fat globules, and there should all be ruled out by accurate differential diagnosis before it is determined that globules themselves are the cause of pain.

Dr. Herz:

I ask the patient to put his finger on the point of pain,

and the patient is usually able to find it. Many people have developed allergy to procaine. It is safe to inject metycaine solution, 1½%, such as is used as an anesthetic, provided do you not inject it under pressure.

RUPTURE OF SPLEEN FROM SLIGHT INJURY

(Neville Davis, in *Brit. Med. Jl.*, June 10th)

Delayed haemorrhage after traumatic rupture of the spleen, when the initial injury is so slight as to be almost ignored by the patient, may be a diagnostic problem. A case is reported as a reminder that mild trauma may assume fatal proportions even after a week's delay.

Fractured ribs are a common complication. The pain often radiates to the left shoulder. Bleeding after the initial injury continues until pressure exerted by the distended capsule equals that produced by the extravasating blood. The clotting of the blood in the vessel is another factor. Most patients return to work. The latent period is rarely more than 14 days. Shock may suggest coronary thrombosis, mesenteric thrombosis, or pulmonary embolism.

The mortality in 27% in cases in which operation is done, 90% in cases treated conservatively.

INTRAVENOUS IRON IN THE TREATMENT OF ANAEMIA

(A. S. Ramsey, in *Brit. Med. Jl.*, May 13th)

Patients suffering from a microcytic hypochromic anaemia, without any other clinically demonstrable pathological feature, who fail to respond to oral preparations of iron, and to vitamins, liver, thyroid, etc., have in the past remained in a state of chronic ill-health or required repeated blood transfusions to become symptomless.

These patients will respond dramatically to intravenous saccharated oxide of iron. After several doses of 199 mg. daily the dosage can gradually be increased to 200 mg. (300 mg. if desired), with very little danger of any toxic side-effects.

A full course always consists of fewer than 10 injections and is the treatment of choice in refractory iron-deficiency anaemia. It is the most convenient method of treating patients who are unable to tolerate oral preparations of iron and is especially useful in pregnancy and the puerperium when gastric upsets are common and a rapid response is especially desirable. It has been found useful in chronic ulcerative colitis, idiopathic steatorrhoea, and rheumatoid arthritis. Oral administration still remains the best method in the majority of cases of secondary iron-deficiency anaemia.

SEWAGE SYSTEMS PRETTY MODERN

(H. D. Kramer, in *Bul. History of Medicine*, Nov.-Dec., 1950)

In 1800 only 16 towns (2.8% of the population) had public water supplies. Fifty years later this had increased to 83 communities (10.6% of the population).

In 1850 Boston's 25 miles of sewers, most of them half-blocked with mud, proved no match for her 65 miles of streets. Philadelphia had 11 miles of sewers and Baltimore but a mile. The first integrated pre-designed sewerage system in America, based on the plans of a sanitary engineer, was installed in Chicago in 1855. Even as late as 1870 many large cities assigned the task of street cleaning and refuse disposal to roving livestock.

A WOMAN IN THE CHILDBEARING AGE who, after an anomalous menstrual period, has a sudden, sharp pain in the lower abdomen with a feeling of faintness and who has a tender cervix and a tender adnexal mass, most often has a rupturing ectopic pregnancy.

—C. H. McKenzie, Minneapolis, in *Minn. Med.*, Dec., '50.

ROUTINE PROCTOSCOPY is recommended for persons past 45 years of age.

—J. F. in *Ohio Med. Jl.*, Jan.

DENTISTRY

J. H. Guion, D.D.S., *Editor*, Charlotte, N. C.

ORAL MANIFESTATION OF NUTRITIONAL DISEASES

The 10th of a series of Guest Editorials furnished for the Journal by the Commission on Nutrition of The Medical Society of the State of Pennsylvania.—*Penn. Medical Jl.*, Feb.

NUTRITIONAL DEFICIENCIES occurring during the developmental period of the teeth may result in defects or hypoplasia of the teeth which become clinically visible after the eruption of the teeth many years later. These hypoplastic areas of enamel furnish a permanent record of any severe disturbance during the tooth development period, of which nutritional deficiencies of A and D are common causes.

The administration of vitamins A and D in excess of the amounts contained in a normal diet exerts no caries-protective effect. As far as the oral tissues are concerned, these vitamins can be omitted in preparations used for supplemental vitamin therapy. Similarly, calcium-containing compounds and proprietary compounds containing calcium fluoride (or other insoluble fluorides) have no caries-protective or -curative effect.

The soft oral tissues, particularly the gingvae, are particularly vulnerable to any change in the general health status of the patient, such as might occur in nutritional deficiency states. The gingival, oral mucosal, and lingual changes may precede by many weeks and even months the typical clinical lesions and symptoms in other parts of the body. The oral tissue changes are rarely diagnostically specific for any particular disease, but familiarity with these oral mucosal changes will assist greatly in the early recognition of many systemic diseases, especially the nutritional deficiencies.

Angular cheilosis, a diffuse burning sensation of the oral mucosa, recurrent Vincent's stomatitis, an intense red color of the oral tissues, and especially changes on the dorsum of the tongue, should always cause one to think first of a nutritional deficiency of the B complex type.

Bleeding gums, a very common oral complaint, is rarely caused by vitamin C deficiency.

The gingival enlargement and submucosal hemorrhages characteristic of clinical scurvy represent a late manifestation of this disease. The most common cause of bleeding gums is poor oral hygiene or mechanical irritation of the gingival tissues caused by calcareous deposits.

Since the oral tissues are such sensitive indicators of latent nutritional deficiencies, the physician and the dentist should be familiar with the oral mucosal changes associated with the more common deficiencies. The early recognition of the systemic

background of the oral mucosal changes will permit corrective therapy at a time when favorable results can be anticipated with less intensive and lengthy therapy. The oral mucosal changes deserve increased emphasis and recognition as a sensitive indicator of the general health and nutritional status of the patient.

CONSTIPATION, NEWLY-DEVELOPED AFTER 40—SUSPECT CANCER OF THE STOMACH

(M. J. Tendler, Memphis, in *Jl. Tenn. Med. Assn.*, Dec.)

Cancer of the stomach appears upon the lesser curvature or within the pyloric antrum in 80% of all cases. Ulcers along the greater curvature or in the cardia are usually carcinomatous.

The patient who should be suspected of gastric cancer is a well-nourished man or woman of middle age who comes in complaining of: 1) vague digestive complaints; 2) a sudden change in bowel habit; 3) stools darker than usual; 4) weakness following "the flu" or "a cold"; 5) shortness of breath, without cardiac or peripheral evidence of cardiovascular disease.

Constipation is one of the earliest signs. Bayle (1839) recognized gastric cancer in its early stage "when the patient looks perfectly well, when he is well nourished, has a good appetite, and complains only of a little epigastric discomfort with some belching and a newly-observed constipation." Bayle adds regretfully—"in this stage the patient is usually treated for a neurosis!" Even in those days! Brinton in 1864 wrote on "the serious import of the short history of indigestion in a healthy person," and he recognized "the danger that threatens when constipation appears suddenly in an older person whose bowels always moved well before."

ALCOHOL BY VEIN IN LABOR.—The basic technique consisted in administration of 200 c.c. of 5% alcohol in less than 15 min., then a constant drip of 100 drops per min. The body can metabolize 10 c.c. alcohol in 1 hr.; 200 of a 5% solu. an hour does not raise blood level. In all patients the dose was regulated according to severity of pain and speed of labor.

A blood level of 1.2 to 1.8 mg. per c.c. attained in 15 to 25 min., the patient felt "fairly comfortable." Satisfactory euphoria and analgesia were produced with a blood level well below 2.9 mg. per c.c., the level diagnostic of drunkenness.

Alcohol in the cord blood immediately following delivery was usually 20% lower than in the maternal blood, not high enough to produce any change in the baby or to interfere with the spontaneous initiation of respirations. No morbidity or mortality occurred among the mothers. One infant was stillborn, supposedly from compression of the cord by the presenting part or by the shoulder. No responsibility is charged to the alcohol.

This method, it is emphasized, requires constant attendance.

—S. Belinoff & O. W. Hall, Jr., in *Amer. Jl. Obs. & Gynec.*, Feb., 1950.

IN 34 CASES procaine amide, 200 to 1000 mg., IV appeared to be of value in restoring rhythm in hearts exhibiting ectopic ventricular contractions and paroxysmal ventricular tachycardia; of some value in nodal tachycardia and ectopic auricular contractions; of questionable value in two cases of paroxysmal auricular fibrillation; of no value in the treatment of chronic auricular fibrillation and auricular flutter.

—J. M. Kinsman et al., Louisville, in *Ky. Med. Jl.*, Nov., 1950.

PRESIDENT'S PAGE

WE ARE starting in on a new year for the Tri-State Medical Association. The annual meeting is over and a very fine meeting it was. A splendid array of subjects were discussed by very able medical men from the three states and Florida.

The only hint of disappointment was that more doctors had not availed themselves of this chance to enter into a wonderful discussion of such timely medical subjects, and also to enjoy the good fellowship that characterizes all Tri-State meetings.

Since this is "New Year," resolutions are in order. Many were made by the council and many more by various individuals. The two things that seem to be uppermost in the minds of all are to increase the membership and to increase the attendance. We could double the present membership of some 750, with a little effort on the part of each individual member. The attendance will be much larger next year. Roanoke, with its picturesque surroundings and its splendid hotel, is an ideal place for a winter convention. Some of our most loyal members live in that area. No Tri-State meeting has ever been held closer to Roanoke than Charlottesville. Holding a meeting in Roanoke will facilitate the gaining of new members all over Southwest Virginia. The social features are to be stressed so as to make it an occasion for the ladies. So begin to plan to be at the Roanoke Hotel on February 18th and 19th with an additional day or two either before or after the meeting.

Those who want to be sure of a place on the scientific program write early to Dr. James Asa Shield, 212 W. Franklin Street, Richmond, Virginia, who is chairman of the program Committee.

Serving as president of the Tri-State is both an honor and a responsibility. Through the year I hope to show my appreciation of the former and to face valiantly the latter.

W. R. WALLACE

SOUTHERN MEDICINE & SURGERY

JAMES M. NORTHINGTON, M.D., *Editor**Department Editors**Human Behaviour*

REX BLANKINSHIP, M.D. Richmond, Va.

Orthopedic Surgery

AUSTIN T. MOORE, M.D., AND ASSOCIATES....Columbia, S. C.

Surgery

W.M. H. PRIOLEAU, M.D.Charleston, S. C.

Urology

RAYMOND THOMPSON, M.D.Charlotte, N. C.

Obstetrics

HENRY J. LANGSTON, M.D.Danville, Va.

General Practice

J. L. HAMNER, M.D.Mannboro, Va.

W. R. WALLACE, M.D.Chester, S. C.

Hospitals

R. B. DAVIS, M.D.Greensboro, N. C.

Cardiology

CLYDE M. GILMORE, A.B., M.D.Greensboro, N. C.

Public Health

N. T. ENNETT, M.D.Beaufort, N. C.

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R. H. LAFFERTY, M.D., and Associates....Charlotte, N. C.

Therapeutics

J. F. NASH, M.D.Saint Pauls, N. C.

Dentistry

J. H. GUION, D.D.S.Charlotte, N. C.

Internal Medicine

GEORGE R. WILKINSON, M.D.Greenville, S. C.

Ophthalmology

HERBERT C. NEBLETT, M.D.Charlotte, N. C.

CLARENCE B. FOSTER, M.D.Charlotte, N. C.

Rhino-Oto-Laryngology

CLAY W. EVATT, M.D.Charleston, S. C.

Proctology

RUSSELL L. BUXTON, M.D.Newport News, Va.

Pediatrics

ALBERT M. EDMONDS, M.D.Richmond, Va.

Dermatology

J. LAMAR CALLAWAY, M.D.Durham, N. C.

Neurologic Surgery

C. C. COLEMAN, M.D., and Associates....Richmond, Va.

Gynecology

RACHEL D. DAVIS, M.D.Kinston, N. C.

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.



DOCTOR WILLIAM R. WALLACE

WITH Dr. Wallace at the helm of the good ship Tri-State, all is serenity and confidence among the crew.

Dr. Wallace has long and valuable experience of doctoring and of presiding. For two-score years he has devoted his great abilities to the care of the private health of the people of the City and County of Chester, South Carolina. For half that time he has presided over the public health work of his State.

Dr. Wallace's engagement in all kinds of good works won him acclaim as Man of the Year (1950) among the Alumni of Presbyterian College, of Clinton, S. C.

He will sit worthily in the seat which has been graced by a McGuire, a Guerry, a McLeod, a Munroe, a Hall, a Royster, a Cathcart.

A YEAR'S WORK OF A FAMILY DOCTOR

A BRIEF description of a Scotsman's¹ general practice for the year 1949 can hardly fail to be of interest.

This practice is in a small industrial town on the Scottish Border. The surrounding rural district extends for a radial distance of 15 miles in all directions. During the year under review I had no holiday. I did go away for two week-ends, when my work was done by a colleague on the first occasion and a locum tenens was available for the second one.

The population of this area is 17,500 town and 2,500 rural. For a period 2,486 people have been under my care. A year's work shows this analysis: Upper respiratory diseases 331, infectious diseases 76, tuberculosis 12, tumours 29, allergic conditions 57, diseases of ductless glands 43, anaemia: pernicious 15, others 38; otitis media 31, respiratory diseases 93, digestive diseases 225, enlarged prostate 3, other diseases of male and female genitalia 48, pregnancy 59, rheumatic diseases 179, and accidents 185.

Refraction tests made have been numerous (318 cases).

It has been my firm policy to retain as many as possible of my patients under my own care. By doing so I hope to increase my own experience and, at the same time, prevent the inconvenience and expense of long-distance travel.

Eighty-nine patients were hospitalized for a shorter or longer period during the year under review. A few of these had been admitted to institutions many years ago, but since they remain on my list they are included as patients requiring hospital treatment. Of these 89 patients 17 were in hospital or institutions without my domain. The remaining 72 patients were hospitalized in the local Cottage Hospital.

The number of registered patients who have died during the year is 16. One young man aged 29 had been attended by me for a tonsillitis and subsequently died while on holiday. I have no information of the cause. Another, a child of one year, died in the local Fever Hospital from a cerebral hemorrhage while she had whooping cough. The following listing shows cause of death and age at death in the remaining 14 cases:

Lobar pneumonia and cardiac failure 76, coronary thrombosis 57, coronary thrombosis and cardiac failure 70, carcinoma of colon (2 cases) each at 73, coronary thrombosis 52, thrombosis of portal vein 59, coal gas poisoning 63, carcinoma of rectum 74, carcinoma of cecum 71, cerebral thrombosis 76, fracture of femur and hypostatic pneumonia 79, coronary thrombosis 82, malignant hypertension 1.

I. R. M. McGregor, Hawick, in *Edinburgh Med. Jl.*, Oct., 1950.

and uremia 67.

A noteworthy item is the report of 318 refraction cases. The Editor of *Southern Medicine & Surgery* has more than once called attention to the fact that the G. P. should do the refraction work for at least 85 per cent of his patients. No one has raised a question as to the rightfulness or legality of a doctor who prescribes glasses purchasing them from an optical firm and charging the retail profit. Had Dr. McGregor been in private practice in the U. S., and charged \$5.00 for each refraction and \$7.50 profit on the glasses in each case, his income from this source would have been \$3,975.00.

And 16 deaths among nearly 2500 patients in this general practice, at an average age for 14 of the patients who died (the other 2 excluded for obvious reasons) of 69.4 years, is a mark for any doctor who treats most of his patients in hospitals to shoot at.

SEVERE REACTIONS FROM STINGS

A 42-YEAR-OLD MAN who had always enjoyed excellent health, while trimming his hedge was stung in two, and probably three, anatomical areas by yellowjackets. Within three minutes he was unconscious and cyanotic, urinated involuntarily and frothy blood was coming from his mouth. Within five minutes he was dead. *Three weeks prior a yellow-jacket sting on the arm had resulted in massive swelling of the whole arm and hand.* This account of death resulting from a few stings by yellow-jackets¹ is abstracted and passed on to our readers with a view to putting doctors on their guard and having them properly instruct patients liable to such accidents.

The ordinary local reaction requires no more than wet soda packs or household ammonia. Theoforin ointment is more effective for comfort.

Epinephrine 1:1,000 is the life-saving drug. If the sting is on an extremity, a tourniquet is applied and 0.5 c.c. of epinephrine is injected into the site of the sting to slow absorption, and 0.5 or 1 c.c. injected into the other arm or leg. The blood pressure is to be ascertained frequently during the emergency and the epinephrine repeated until the pressure rises. If there is evidence of hemococoncentration, plasma should be given intravenously. *If the patient survives for a few minutes after the sting, he is not likely to die and may be released within a few hours with no fear except of another sting.*

There is much too great a tendency to rely on antihistaminic drugs in allergic disease. Anaphylactic shock is a dangerous accident and must be treated quickly with epinephrine subcutaneously or IV (the dose IV is two or three minimis) the only drug to be considered in these emergencies.

What can be done about future possible stings in the person who has had a systemic or severe local reaction? The answer lies in *hyposensitization*.

1. Boen Swinny, M.D., San Antonio, in *Texas State Jl. of Med.*, Aug.

tion. The sensitivity is species-specific. A patient may be sensitive to only black wasps and negative to yellow jackets, bees, ants and other stinging insects. Some patients are sensitive to more than one species.

Valuable farm animals have been lost by such stings.

Stinging-insect venoms are available. Use care in testing, giving intradermal injections at first, dilutions of 1:100,000, using only .01 or .02 c.c. A wheal with erythema denotes sensitivity. The first treatment dose subcutaneously should be .10 c.c. of the dilution that produces the first erythema without whealing. Serial dilutions are done and tests are done, one at a time, at 20-minute intervals until the proper dilution is found. After the first dose is given, each subsequent dose should be increased by .10 c.c. over the preceding dose. Injections may be given twice weekly until 18 doses are completed. Subsequent stings will result in only mild or local reactions.

It would certainly be wise for every doctor to teach all adult members of every one of his families the simple technique of hypodermic injection. And every family known to have "allergies" should be kept supplied with epinephrine.

SUDDEN AND UNEXPECTED DEATH IN INFANCY ..

BY FAR the most common cause is infection—first in frequency pneumonitis, second generalized sepsis, according to Grulée.¹ Then comes elaboration of the theme.

Fulminating infections causing sudden death of infants are due to streptococci most commonly, also to staphylococci, pneumococci, meningococci, and dysentery bacilli. Adrenal cortical damage commonly found in association with generalized sepsis is worthy of special mention.

Hemorrhage of importance in this connection is intracranial, pulmonary, or bleeding into specific organs or body cavities.

Death in intimate association with surgical procedures has greater occurrence rate with abdominal and neurological procedures. Important factors are unsuitable anesthetic and its improper administration. Sensitivities to atropine and other drugs are observed with considerable frequency in early life and explain some fatalities. As to deaths following, after 24 to 48 hours, the uneventful completion of elective and often minor surgery, careful autopsy examination in the majority of the cases reveals overwhelming sepsis, presumably having the operative site as the portal of entry.

Poisonings as with fluoride or cyanide and anaphylactoid deaths occurring in eczematous infants are not sufficiently numerous to merit attention.

¹ C. G. Grulée, Jr., New Orleans, in *N. O. Med. & Surg. J.*, Dec.

DELIVERY OF A THIRTEEN-YEAR OLD

S. S. HUTCHINSON, M.D., Bladenboro, N. C.

A 1947 report of 200 consecutive deliveries of primigravidae 17 years of age and under, at St. Vincent's Infant and Maternity Hospital, Chicago, lists the ages at delivery as follows:

Three of the mothers were	12
3	13
6	14
27	15
6	16
95	17

Labor was somewhat shorter in all three stages than is the average, and terminated spontaneously in 98 per cent of the cases. The complications in labor and the puerperium were not unusual in number or severity.

Some three or four years ago there was much in the papers about a Peruvian Indian girl of nine giving birth to a healthy, well formed baby that survived, and for aught I know is a buxom little girl today. So the case I here report briefly does not aim at a record; still it seems worthy of being called to the attention of doctors, along with the request that others report their experiences along this line.

The darker woman* was born November 24th, 1909. She gave birth to the child that developed into the lighter woman on February 29th, 1933. Her age at the birth of this child was 13 years, 5 months and 5 days. The delivery was by forceps, in the wee hours of the morning, with the assistance of the mother of patient.

A small brass lamp was the sole source of illumination and a dishpan served as sterilizer.

The lacerations, which were severe, were repaired promptly. The mother made an uneventful recovery and has given birth to four other children. The baby has been healthy all her life, and is now an unusually vigorous young woman.

*Dr. Hutchinson submits photographs; but the only purpose that would be served by using them for illustration would be to verify his statements, and Dr. Hutchinson's statements need no verification.—J. M. N.

EPIDERMOID CARCINOMA OF THE HAND.—In a series of 72 patients with epidermoid carcinoma of the hand, all but one were outdoor workers, much exposed to the sun. The depth of invasion was important in relation to the frequency of metastasis. No metastases were found in those lesions which did not extend below the sweat glands.

—Johnson, R., and Ackerman, L. V., in *Cancer*, July, 1950.

EDEMA IN BREAST CANCER.—Any degree of "pigskin" or "orange-peel" edema of the breast is indicative of advanced cancer. Distant metastasis as well as widespread local invasion have almost invariably taken place far beyond the area of edema; therefore if this type of edema involves more than one third of the breast, the patient is incurable by surgery.

—Stout, A. P., in *Southern M. J.*, March, 1950.

NEWS

DEPARTMENT OF MEDICINE UNIVERSITY OF VIRGINIA

A Conference on the Treatment of Emotional Disorders, sponsored by the Department of Medicine, in cooperation with the Mental Hygiene Committee of the Medical Society of Virginia, will be held March 23d, under the direction of Dr. David C. Wilson, Professor of Neurology and Psychiatry. The guest speaker will be Dr. Jacob Fine-singer, Professor of Psychiatry, University of Maryland. Representatives from hospitals and county medical societies of Virginia have been invited to attend the Conference.

A new Department of Social and Environmental Medicine has been established, and Dr. Robert D. Wright, Senior Surgeon, U. S. Public Health Service, has been appointed professor and chairman of the Department, which will be concerned with instruction and research in public health and preventive medicine and in sociological problems which affect health and medical care.

* * *

The Children's Service Center has been approved by the American Association of Psychiatric Clinics for Children as a center for training in child psychiatry and social work. It is one of 18 such recognized training centers in the United States.

* * *

A grant of \$9,249 has been awarded Dr. William Parson, Professor of Internal Medicine, and Dr. Jesse Beams, chairman of the Physics Department, by the National Heart Institute for studies on "Ultracentrifugal Analysis of Human Plasma Lipoproteins and their Relationship to Vascular Disease."

* * *

Dr. Grover C. Pitts, Assistant Professor of Physiology, has received a grant from the National Institute for Health for studies on the "Gross Composition of the Fat-Free Mammalian Body. The Ratio of Principal Body Components (Muscle, Bone and Blood) in Normal Individuals and in Representatives of the Extremes of Body Habitus."

DUKE UNIVERSITY SCHOOL OF MEDICINE AND DUKE HOSPITAL

An arrangement has been made for emergency supplies of Cortisone. Merck & Co. will supply the drug for the following conditions: acute leukemia, Addison's disease, burns and shock, disseminated lupus erythematosus, eye diseases which may cause blindness, pemphigus, periarthritis nodosa, rheumatic fever with carditis, and status asthmaticus. If you have a patient in need of Cortisone and your diagnosis conforms with this list of conditions, we can get a supply of the drug by sending a telegram to the Medical Division, Merck & Co., Inc., Rahway, N. J.

Vitamin B₁₂: We are dispensing 10 c.c. vials of Lederle Normocytin which contains 30 micrograms of Vitamin B₁₂ per c.c. to all locations as a stock item.

If Cobione (Merck) is wanted, it will be dispensed only on a charge slip at \$1.00 per ampul. Each 1 c.c. ampul contains 15 micrograms of Vitamin B₁₂.

DR. CLYDE M. GILMORE, chief of the Gilmore Clinic, of Greensboro, N. C., has had conferred the degree of Fellow of the American College of Cardiology.

DR. DAVID T. SMITH, professor of bacteriology and associate professor of Medicine at Duke, is a visiting faculty member at Marquette, for the Course in Pulmonary sponsored by the American Trudeau Society, for March 26th-31st.

DIED

Dr. William Russell Jones, 81, Richmond physician, died March 20th in a Richmond hospital. He was born in 1870 at "Beaumont" in Orange County, was graduated from the Gordonsville High School, received his M.D. degree in the class of 1892 at the University of Virginia.

From 1897 until 1906 he taught chemistry, toxicology and medical jurisprudence at the University College of Medicine. From 1906 until 912, he served as lecturer at the college.

At the time of his death, he was medical advisor and chief surgeon of the Richmond, Fredericksburg and Potomac Railroad, a member of the staff of the Medical College of Virginia Hospital and a visiting physician at the Retreat for the Sick.

Dr. James L. Blair, 62, one of Gastonia's most widely known and highly esteemed physicians, dropped dead of a heart attack at the City Hall on February 27th.

He had practiced medicine in Gastonia for more than 30 years, coming here around 1920 to become associated with the late Dr. H. F. Glenn. Dr. Blair had been in ill health recently and took a leave of absence from his duties for some time. He had been going to the office and doing work of a less strenuous nature in recent months.

Dr. A. P. Willis, 71, one of the few remaining "country doctors" in Western North Carolina, died February 27th in an Asheville hospital.

He was physician for the American Enka Company at Enka, N. C., from the time the rayon manufacturing plant was built in the late 1920's until he retired from practice in 1945.

Survivors include the widow and a son, Dr. Candler A. Willis, of Enka.

Dr. Robert R. Garvey, 62, of Winston-Salem, died in a local hospital Feb. 23d. He was born in Ashe County, son of William H. and Sarah Howell Garvey. He spent his early life in Ashe County, was graduated from Appalachian State Teachers College, took two years of pre-medical training at Davidson College, and completed his course in the Medical College of Virginia in 1916.

He did general practice until 1927 in Elkin. He took a year of additional study in Philadelphia, specializing in urology, came to Winston-Salem in 1928 and began his practice there. He was later joined by his brother, Dr. Fred Garvey, with Bowman Gray School of Medicine, was a faculty member as long as his health permitted.

TESTOSTERONE is the drug of choice for use in functional uterine bleeding, cystic, cystic mastitis, menopausal bleeding, female precocity and bone metastasis following carcinoma of the breast. The dangers of hirsutism must not be overlooked.

—O. S. Jones, in *Med. Times*, Dec.

New Antithyroid Compound Found More Effective

A new chemical (1-methyl-2-mercaptoimidazole) reported to be rapidly effective in hyperthyroidism, including cases which have not responded to previous antithyroid therapy, differs in structure from the thiouracils. Initial doses of 15 to 30 mgm. daily—in three doses at eight-hour intervals—should be continued only until symptoms are controlled, thereafter reducing to 5 to 15 mg. daily, in divided doses. The possibility of agranulocytosis from any antithyroid drug, makes it advisable to make WBC (inc. diff.) counts every week to ten days.

This drug is now marketed in 5-mg. tablets under the name "Tapazole" (Methimazole, Lilly).

ASAC



15%, by volume Alcohol

Each fl. oz. contains:

Sodium Salicylate, U. S. P. Powder.....	40 grains
Sodium Bromide, U. S. P. Granular.....	20 grains
Caffeine, U. S. P.....	4 grains

**ANALGESIC, ANTI PYRETIC
AND SEDATIVE.**

Average Dosage

Two to four teaspoonfuls in one to three ounces of water as prescribed by the physician.

How Supplied

In Pints, Five Pints and Gallons to Physicians and Druggists.

**Burwell & Dunn
Company**

MANUFACTURING PHARMACISTS

Charlotte, North Carolina

BOOKS

THE EYE MANIFESTATIONS OF INTERNAL DISEASES (Medical Ophthalmology), by I. S. TASSMAN, M.D., Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania. With 279 illustrations, including 25 in color. Third edition. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo. 1951. \$12.00.

It is truly remarkable how many diseases manifest themselves through changes in the eye which are discernible to examination of which the non-expert in eye diseases is entirely capable. Most doctors think of nephritis, diabetes and some congenital and hereditary conditions as being importantly manifested by eye changes; but few would think of infectious diseases, virus infections, fungus infections, diseases of the blood, disorders of menstruation and pregnancy, diseases of the endocrine glands, skin diseases, and diseases of bone as presenting eye symptoms or signs of diagnostic importance.

Much attention is paid to instruction in the best ways of eliciting the information the eye has to give.

One could hardly think of how any doctor could make a better investment in money, than in the purchase of this book; or a better investment in time, than by the study of it.

CURRENT THERAPY 1951: Latest Approved Methods of Treatment for the Practicing Physician. HOWARD F. CONN, M.D., Editor, and 12 consulting editors. W. B. Saunders Company, W. Washington Square, Philadelphia 5, Pa. \$10.00.

The list of editors and the name of the publisher give abundant testimony that the subject shown by the title is covered as well as could possibly be in a book of reasonable size. Indeed, it is doubtful if any more information of value to doctors and their patients would have been afforded by filling several volumes of the same size.

It is gratifying to see on the list of contributors the names of Dr. Wyndham B. Blanton, of the Medical College of Virginia; Dr. John C. Birch, of Vanderbilt; Dr. James W. Burkes, of Tulane; Dr. Robert B. Greenblatt, of the Medical College of



Georgia; Dr. George T. Harrell and Dr. Wingate M. Johnson, of Bowman Gray; Dr. Linwood D. Keyser, of Roanoke, Va.; Dr. Robert W. McKay, of Charlotte, N. C.; Dr. Jas. S. McLester, of the Medical College of Alabama; Dr. Julian M. Rufin and Dr. R. Wayne Rundles of Duke; and Dr. Samuel A. Vest, of Virginia.

THE MICROKARYOCYTES, THE FOURTH CORPUSCLES AND THEIR FUNCTIONS, by K. G. KHORAZIAN, A.B., M.S., M.D., Pineville, W. Va. *Meador Publishing Company*, 324 Newbury St., Boston 15, Mass. 1951. \$12.00 p. p.

The preface tells us that the main and only topic of this work deals with the discovery of so far unknown and undescribed corpuscular or cellular elements universally present in the plasma blood cells and tissue cells of different species and different phyla of animate matters from the lowest to the highest, and with the descriptions of the various important and biologically and physiologically indispensable functions performed by them.

It is said that the universal existence of the microkaryocyte has been demonstrated in all living matter, plant and animal, and that the entire functional activities of animate structures from the lowest phyla to the highest phyla are accomplished through these cells.

You may take over from here.

INTRODUCTION TO SURGERY, VIRGINIA KNEELAND FRANTZ, M.D., Associate Professor of Surgery, College of Physicians and Surgeons, Columbia University; HAROLD DORTIC HARVEY, M.D., Assistant Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University. *Oxford University Press*, 114 Fifth Ave., New York 11, N. Y. 1951. \$2.75.

The title enlists our interest. The foreword tells us that this monograph grew out of a course in surgery at the College of Physicians and Surgeons initiated in 1906. It offers the student beginning the study of surgery certain fundamentals of the response of the tissues to various types of injury. In other words, it covers about the same field as did a textbook of Principles of Surgery of a good many years ago; and it does a good job of it.

DIABETES GUIDE BOOK FOR THE PHYSICIAN. *American Diabetes Association, Inc.*, 11 West 42nd Street, New York 18, N. Y. 1950.

About all one needs to know about the essentials of diabetic recognition and management.

PYHICIAN'S HANDBOOK, by MARCUS A. KRUPP, M.D., Assistant Clinical Professor of Medicine, Stanford University School of Medicine; NORMAN J. SWEET, M.D., Assistant Professor of Medicine, University of California School of Medicine; ERNEST JAWETZ, Ph.D., M.D., Associate Professor of Bacteriology and Lecturer in Medicine and Pediatrics, University of California School of Medicine, and CHARLES D. ARMSTRONG, M.D., Clinical Instructor in Medicine, Stanford University School of Medicine.

Sixth edition. *University Medical Publishers*, P. O. Box 761, Palo Alto, Calif. 1950. \$2.50.

A quickly available source of bedside and laboratory diagnostic information and the essentials of treatment of all medical diseases the practitioner is likely to encounter.

HANDBOOK OF OBSTETRICS AND DIAGNOSTIC GYNECOLOGY, by LEO DOYLE, M.S., M.D., Illustrations by RALPH SWEET. *University Medical Publishers*, P. O. Box 761, Palo Alto, Calif. 1950. \$2.00.

Here is offered in the fewest possible words a presentation of the essential features of obstetrics and of gynecological diagnosis.

YEARLY SURGICAL DIGEST, by RICHARD A. LEONARDO, M.D., Ch.M., D.I.B.S., F.I.C.S. *Froben Press, Inc.*, 1776 Broadway, New York 19, N. Y. 1950. \$3.00.

The book is made up of notes varying in length from a dozen lines to a page or two on all the common surgical diseases and treatments.

EXTRAORDINARY INCREASE in the medicinal requirements for cortisone during the past two months has far outstripped present production capacity, Merck & Co., Inc., have announced.

The company's announcement continued: The resulting shortage has given rise to rumors of black market operations and price kiting. With the first of these rumors, an investigation was ordered by James J. Kerigan, company president. All sales representatives have been requested to report any evidence of excessive prices or of diversion of the product from the normal channels—hospitals, pharmacies, and physicians.

The present shortage of Cortone (Merck brand of cortisone) is due to excess of demand over supply. Merck is producing enough Cortone to take care of the needs of tens of thousands; the demand for cortisone involves hundreds of thousands.

This demand cannot be satisfied by present methods of manufacture. The present starting material in the manufacturing process is cattle bile. Before cortisone can be made in sufficient quantities, a new, more plentiful starting material will have to be found, or a complete synthesis discovered by chemists and research workers.

The company has made six reductions in the price of Cortone since August, 1949, when the first limited quantities were offered for clinical investigation at a price of \$200 per gram. The present price to wholesalers is \$2.40. Merck's suggested price to pharmacies and hospitals is now \$28 per gram, and to physicians, \$35 per gram. Merck expects to triple or quadruple its present output by the middle of 1952.

Current supplies of Cortone are being allocated by Merck to wholesalers throughout the country on the basis of the basis of the incidence of diseases in the treatment of which Cortone is effective. This corresponds roughly to the distribution of population in the country.

SEBORRHEIC DERMATITIS of the external ear often yields to 10% ichthyl in normal saline light pad the ear. When the edema subsides, use 10% ichthyl in glycerine.

A frequent cause for abdominal and chest aches and pains is an arthritic or fibrositic type of disease in or about the spine.

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A BIT FROM THE MAGNIFICENT MIND OF DR. ERNEST C.
LEVV

When in the dim distant future our profession shall have exhausted all the possibilities of increasing its knowledge of man by experiments upon the lower animals, there will be at least one thing still unknown. It will remain for some scientist of that day to explain the mental abnormality of those who would set aside the fundamental principle of self protection which runs through all nature, and who, their "Philozoic" sentiments outweighing sentiments of true "philanthropy," would sacrifice the man to the brute. When that day arrives, we trust some anti-vivisectionist may be found willing to sacrifice himself to the logical outcome of his own remarkable doctrines.

—*Medical Register*, May, 1897.

"Look up those two words.

FORCING EACH EXAMINER TO STAND HIS OWN EXAMINATION

During the recent session of the State Board of Medical Examiners at Hot Springs, the following resolution, offered by Dr. R. S. Martin,* of Stuart, Va., was adopted by that body:

Resolved, That each examiner must have the questions on his section printed, and that he must mail the secretary a copy with synopsis of answers, ten days before the meeting of the Board.

Many of the examiners fail to realize that in certain instances to answer fully single questions in the examinations would consume more than the entire time allowed for the section. The requirement set forth in Dr. Martin's resolution, by practically forcing each examiner to stand his own examination, should do much toward remedying this defect.

—*Medical Register*, May, 1897.

*Father of Dr. Moir S. Martin, of Mt. Airy, N. C.

HOT SPRINGS—AMERICAN PLAN—\$2.00

Rates of a single fare for the round-trip have been made by the Chesapeake and Ohio Railroad, and the management of the springs have made the most liberal terms for physicians and members of their families during the week of the session—two dollars a day.

The Medical Society of Virginia's next meeting will be held at Hot Springs on the 31st [of May, 1897] and continue for three, possibly four, days. As a place of meeting no more charming spot could have been chosen, the only danger being that the attractiveness of the surroundings and the hospitality of the management will sorely tempt some of the members to spend their time otherwise than in discussing or listening to the dissertations.

TO DIAGNOSE BRAIN TUMOR EARLY

Remember:

Headache severe enough to require heavy medicine should be neurosurgically investigated.

Any convulsion or similar paroxysmal disorder beginning after the age of 20 is a symptom of brain tumor until proven otherwise.

The ophthalmoscope should be used regularly by all physicians so that abnormalities will be more quickly recognized.

Bony skull masses very strongly suggest underlying tumor.

Deafness without explanation on a basis of infection should make one suspect eighth-nerve tumor.

—C. E. Dowman, Atlanta, in *Jl. Med. Assn. Ga.*, Nov., '50.

POVERTY PREVENTS ARTERIOSCLEROSIS

(Wm. Dock, in *Bul. N. Y. Acad. of Med.*, Mar.)

In urban civilization families who tend to die off soon after the age of 50 will have more descendants than those who live to old age. One can not house and feed as many children, or adapt to change quickly, when burdened with old people's wants and opinions. Hence, it is to be expected that high and unstable cholesterol levels will be most often found in races long used to city life, and will increase with spread of urban civilization unless effective control of arteriosclerosis is developed and accepted by the populace at large. Today, over most of the earth, arteriosclerosis is being prevented by chill penury. Where a luxuriant diet prevails, diabetes and arteriosclerosis flourish.

THE U. S. VITAMIN CORPORATION announces the availability for the first time of water-soluble vitamin A in soft gelatin capsules (Aquasol A Capsules), and calls special attention to:

First, the remarkable chemical feat of mixing oil and water in an aqueous solution; secondly, the physiological advantages of more rapid and more complete utilization of the vitamin A. Thorough tests with aqueous solutions of vitamin A compared with ordinary vitamin A in oil show that the aqueous form of vitamin A results in up to 500% greater absorption, 80% less loss through fecal excretion, and 85% higher liver storage of the aqueous form of vitamin A, all which adds up to superior therapeutic activity.

For Keeping Hydodermic Syringes Sterile

Writing in the *British Medical Journal*, Dr. J. W. Tomb recommends a mixture of equal parts 90% alcohol and phenol in glycerine (16% phenol) for the purpose. This syringe should be first sterilized by boiling. When, after storage, the syringe is taken out of the mixture, the alcohol will evaporate quickly, leaving behind a thin film of glycerine or phenol, which not only keeps the interior of the barrel sterile, but also prevents the syringe piston from sticking. Dr. Tomb states that hundreds of injections have been given in this way without reaction, and that the syringe was always sterile.

Marking-Ink for Glass

The ink, which is green, is made by mixing equal parts of chrome oxide with powdered lead borate. The powders are stirred into a mixture of equal parts water, alcohol and glycerine, the amount of liquid varying with the consistency desired. The ink is applied to the glass test-tube, flask, beaker or such with a pen. When the ink is dry, the glass is warmed in the yellow flame of an adjusted Bunsen burner, then heated to red-hot in a blue flame. The glass is finally allowed to cool, using the yellow flame to slowly lower the temperature and prevent unequal stresses in the glass.

This ink cannot be used on heavy, cast-glass equipment such as desiccators, battery jars, reagent bottles or the like.

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INTERNAL MEDICINE

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JAMES M. NORTHINGTON, M.D., Editor

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Massive Doses of Vitamin C and the Virus Diseases

F. R. KLENNER, M.D., Reidsville, North Carolina

IT has been reported that one of the mold-derived drugs, in addition to being a good antibiotic, is a super-vitamin. Conversely, we argue that vitamin C, besides being an essential vitamin, is a super-antibiotic. Vitamin C in vitro, if maintained at body temperature, inactivates certain toxins at an unbelievable rate. Five parts per thousand of vitamin C with toxins and appropriate controls, incubated at 37° C. for 48 hours showed when tested on mice the minimal lethal dose for the control tubes to be 1,16,000 c.c., while that from the mixture of vitamin C and toxin was only 1/1,000 of a c.c. (Klegler, Guggenheim, Warburg, 1938). In this study the loss of vitamin C in toxin broth and ordinary broth controls followed a constant pattern; the loss, however, was always greater in the toxin broth tube. The difference between the rate of disappearance of vitamin C in toxin and ordinary broth was more striking the greater the concentration of vitamin C. It is, therefore, reasonable to conclude that the degree of neutralization in a virus infection will be in proportion to the concentration of the vitamin and the length of time in which it is employed.

Since it has long been known that the virus organism resembles more the toxins and ferment than the common animate causes of disease, it would seem plausible that the detoxication effected

by vitamin C is produced by a direct combination of the vitamin with the toxin and/or virus, this followed by the oxidation of the new compound which destroys both the virus and/or toxin and the vitamin. This destruction of the virus by oxidation has been concurred in by many investigators. Since vitamin C is an integral part of the oxidation-reduction system of the body, its function in the role of an antibiotic becomes intelligible. To appreciate the antagonistic properties of vitamin C against the virus organism and the chemical ferments of exotoxin-producing microorganisms, one must forget its present academic status as a factor essential for life. A cow is valuable to the farmer not only for her ability to produce milk, but also as a source of organic fertilizer. Vitamin C, likewise, is important, not only as a detoxifying agent, as a catalyst aiding cellular respiration by acting as a hydrogen transport, as a catalyst in the assimilation of iron, and as a conservator of collagen fibers and bundles in tissues of mesenchymal origin; but, also, because of its function as a reducing agent or the precursor of such a substance. In this latter capacity it fulfills the requirements of an antibiotic. A striking phenomenon of vitamin C is the similarity of response, whether to correct pathologic processes due to a deficiency of this compound, acting as a vitamin; or to destroy the ferment of microorganisms, acting as an antibiotic.

Within a few hours after institution of adequate vitamin C therapy to correct an avitaminosis, his-

tological evidence of bone improvement is obtainable. Fibroblasts begin to form normal connective tissue and capillary buds are invading hemorrhagic areas (Younmans, 1941). Similar is its dramatic antibiotic action, the rule being clear evidence of clinical response within a few hours.

The purpose of this paper is to present clinical proof of such action for this vitamin.

Case 1 is one of premeasles in a ten-months-old baby. The term "promeasles" is adopted to express the syndrome of fever, redness of eyes and throat, catarrh, spasmodic bronchial cough and Koplik spots. Vitamin C, 65 mgm. per Kg. of body weight, was injected intramuscularly every four hours. The fever dropped from 105 to 97.6° F. within 12 hours. All symptoms showed marked clearing. This sudden drop in the fever was thought to be explainable on one of three grounds: 1) Common night drop. 2) Due to the antibiotic action of vitamin C. 3) Even if the vitamin C administration had been continued, possibly a moderate rise would have occurred in the late afternoon of the second day, granting a highly virulent organism and a poorly resisting host. To determine which of these deductions was valid, vitamin C was discontinued for a period of eight hours. At this point the rectal temperature was back up to 103.4. Vitamin C therapy was resumed and instead of the expected 8 p. m. climb, the temperature was down to 99.2 (R) eight hours later. The vitamin C injections were continued, the baby made an uneventful recovery and was discharged 60 hours following admission. No measles rash developed. Eighteen months have elapsed since this illness and the child has not had clinical measles. This is not due to the establishment of active immunity but to the lack of a second exposure.

Case 2 confirms the previous case. This case is that of a 22-months-old infant with symptoms identical with that just described. The same medication was followed; the same clinical course followed. Under parental pressure the child was discharged from the hospital within 36 hours, apparently well. Four days later the child's brother and sister broke out with measles, which ran the usual course, having received no specific therapy. Seven days later the 22-months child broke out with measles. This time vitamin C was not given. The case was judged as modified.

The response as observed in measles was characteristic for vitamin C *versus* virus infections. Two cases of virus pneumonia complicated by encephalitis were so unusual that case histories are given.

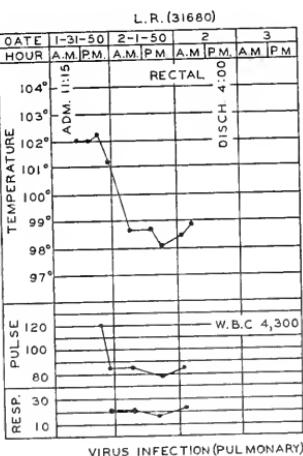
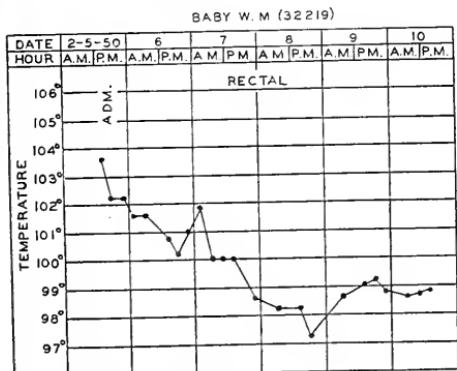
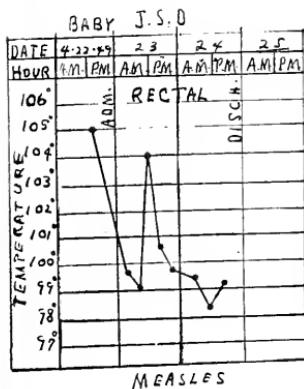
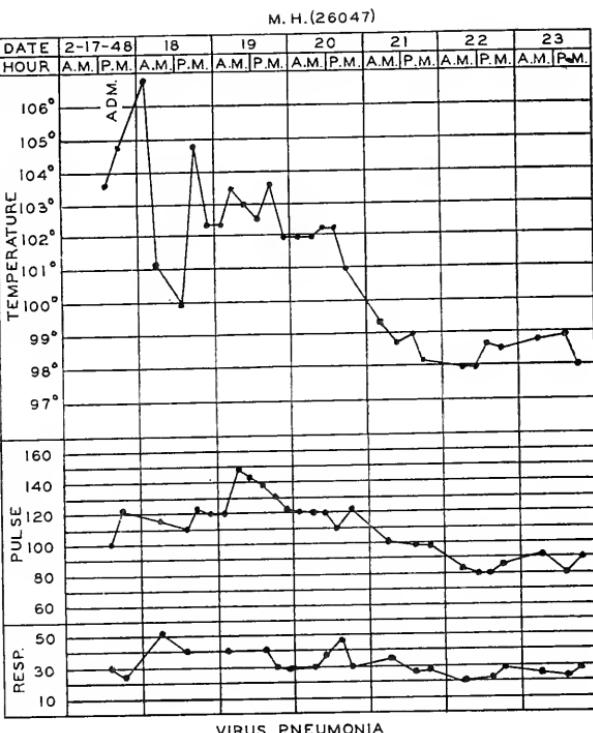
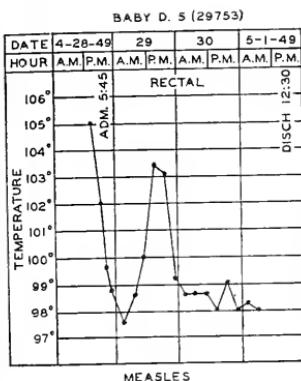
Case 3 is that of a colored woman, aged 28, with history (given by a relative) of chills and fever and chest and head cold for 14 days, severe headache for three days. In stupor when first seen, eye lids closed, a white foam at the mouth which

she periodically tried to spit out. Temperature by axilla 106.8. Dehydration was much in evidence, breath sounds diminished to absent, tactile fremitus increased over the entire right lung. The sulfa drugs, penicillin and streptomycin with supportive treatment had been exhausted. Four grams of vitamin C was given intravenously along with 1000 c.c. of 5 per cent dextrose in saline solution. Temperature dropped to 100 (Ax.) within 11 hours. Four hours later, vitamin C was resumed—every two to three hours, in dosage of 2 to 4 grams depending upon the response. After 72 hours the patient was awake, sitting up in bed and taking fluids freely by mouth. There was no fever at this time, nor for the remainder of the time in hospital. Vitamin C was continued for a period of two weeks: the frequency was cut to every 12 hours, two grams at a dose. An interesting complication was deafness; her speech gave a loud, monotonous, bell-sound effect. It was debated whether this was the result of the streptomycin or to the encephalitis. Prostigmin 1:2000, 1 c.c., and vitamin B₁, 200 mgm., were given IM twice daily. On the tenth day of treatment the hearing suddenly returned to normal. The x-ray picture of the right lung was one of almost complete consolidation. Although the patient was clinically well of her pneumonia after 72 hours, the x-ray picture was not completely clear until 90 days later.

This phenomenon of Nature clearing the debris after killing out the virus organism was observed in five other cases. The time required was in direct proportion to the degree of pulmonary involvement. There is nothing new about this procedure: Nature merely duplicating a stage in the metamorphosis of the frog in getting rid of its tadpole tail.

Case 4, that of a white baby 19 months old, bothered with a little cold for two weeks, not very sick until the last 24 hours, in which the baby had been "running a high fever that could not be broken with aspirin." Clonic convulsive seizures of the right arm and leg began 12 hours before admission. An undernourished infant, lying rigid in its mother's arms, skin cold to touch, color cadaver-like, eyes closed, grade -2 mucopurulent nasal discharge, throat red. The temperature was 103.8 (R). Breath and heart sounds practically inaudible. Areas of skin over the back presented an appearance similar to that seen in rigor mortis.

Vitamin C, 1000 mg., was given IM, repeated every four to six hours. At the first injection the baby did not move and the sensation was like that of sticking an orange. To give rapid external heat, mustard plasters were applied to the anterior and posterior chest in a mixture of one part mustard to three parts flour. A croup tent was set up, the vapor carrying compound tincture benzoin: 50



c.c. of 5 per cent dextrose in saline was given under the skin in the scapular areas. Two hours after the first injection of vitamin C the baby drank 240 c.c. of orange juice, the first food of any type taken by the baby in 24 hours. This was repeated 1½ hours later. At this time there was total paralysis of the right arm and leg. Twelve hours after admission the baby moved its right leg and one hour later grasped a bottle of orange juice with both hands. From this point on the recovery was uneventful. Of secondary importance is the laboratory report of *Ascaris lumbricoides* ova and hemoglobin 55 per cent.

Cases 5 and 6 are of pulmonary virus infection, (a) in a boy of 14 years, and (b) in a man of 58 years. In the case of the boy the fever curve was of the type showing a fast response to heavy vitamin C injections. The WBC was 4,300, urine sugar ++. Twenty-six grams of vitamin C was given IV to this patient in a 44-hour period.

In the case of the man, Case 6, the fever decline was after a modified step-ladder fashion. In this instance the amount of vitamin C injected was less than half of the recommended dose. The WBC was 5,850, admission urine sugar +++. Thirty-one grams of vitamin C was injected intravenously over a period of 60 hours. It is to be noted that the same amount of vitamin C (2 grams every four hours) was given to the boy and to the man, disregarding the factor of body weight. Had the man received four or five grams every four hours, or two grams every two hours, his hospital course would probably have followed the same pattern as that of the boy. A point of great interest was that at subsequent examinations the urine was consistently negative for sugar. The course in these cases emphasizes the necessity of administering massive doses of vitamin C at frequent, regular intervals so as to maintain the proper level of this antibiotic in the tissues.

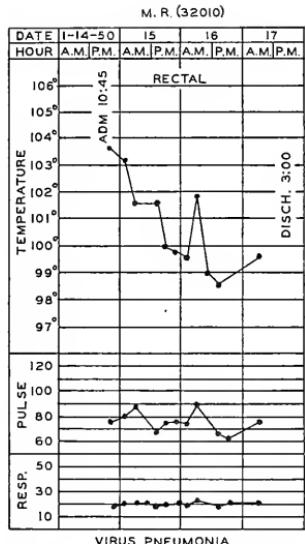
The amount of vitamin C for optimal effect will vary greatly with the individual. The type of the disease and the degree of toxemia are important guides in determining the dosage. Although the usual dose of vitamin C is calculated on the basis of 65 mgm. per Kg. of body weight, and given every two to four hours by needle, under certain conditions larger single injections can be used to good advantage. Vitamin C given to a child with measles, mumps or chickenpox will abort or modify the attack, depending upon the intensity of the treatment. If the activity of the pathogen is stopped, the development of active immunity will be interrupted. In handling these particular childhood diseases, when uncomplicated, the treatment should be aimed at modification of the infection as the plan of choice. To accomplish this end vitamin C should be increased to 250 mgm. per Kg. of

body weight, and the injection given intramuscularly. It will be necessary, at times, to repeat with half of this amount eight hours later. The vitamin was given in a concentration of 500 mg. per c.c. of solution. Pain was slight and lasted only a few minutes. Procaine, 0.5 to 2 per cent, instilled from a second syringe into the gluteal muscle through a placed needle just before giving the vitamin might solve this problem. The itch of measles and of chickenpox, the occasional vomiting of these illnesses, and the pain of mumps were fully controlled within one hour, when 250 mg. Kg. body weight was used. Instead of repeating waves of macules in chickenpox, and the usual seven to nine days required for crusting, following the heavy modifying injection no new eruptions appeared and crusting was present within six hours. Further clinical studies may prove that the routine use of the higher dose (250 mg. Kg. body wt.) replacing the usual (65 mg. Kg. body wt.) is indicated in all virus infections and the results produced may be even more dramatic.

The greatest value of vitamin C in virus infections does not rest with these lesser kinds of diseases, some of which, e.g. measles, can be modified or prevented by the proper use of immune globulin. The value above all others is its positive action against the virus causing poliomyelitis. A report of this usage was published in the official journal of this association in 1949. Many physicians refuse to employ vitamin C in the amounts suggested, simply because it is counter to their fixed ideas of what is reasonable; but it is not against their reason to try some new product being advertised by an alert drug firm. It is difficult for me to reconcile these two attitudes. On the other hand, many physicians who have been willing to try vitamin C against the virus of poliomyelitis have obtained the same striking results as we reported. Scores of letters from practitioners here in the United States and in Canada could be presented in evidence. In some instances doctors have cured their own children of poliomyelitis by giving vitamin C and in other cases doctors themselves have been cured.

In poliomyelitis vitamin C performs three important functions: 1) It destroys the virus; 2) acting as the dehydrator and diuretic of first choice, it removes the edema fluid from the brain and the cord; 3) it preserves the lining of the central canal and maintains more regular spacing and less crowding of the ependymal cells (Altman). The pressure within the bony vault of the central nervous system resulting from the inflammatory process excited by the virus, acts as a haemostat to cut off the blood supply to the anterior horn cells. This compression of their vessels denies to the horn cells the essentials for function, for life even.

It is of more than academic interest to review



the findings of McCormick in 50 confirmed cases of poliomyelitis in and around Toronto, Canada, during the epidemic of 1949. This report is that children of families eating brown bread who came down with poliomyelitis did not develop paralysis; whereas in those families eating white bread many of the children having poliomyelitis did develop paralysis. The point here is that brown bread has 28 times more vitamin B₁ than does white bread. Obviously, then, the paralysis which complicates acute poliomyelitis appears to be due to a B₁ avitaminosis. Vitamin C by removing edema fluid relieves from pressure these vessels that supply nutriment to the horn cells, thus allowing the normal complement of vitamin B₁ to reach these cells.

In December, 1949, a 5-year-old white girl was brought to my office with paralysis of both lower extremities of 4½ days' duration. The child had been ill for 12 days. There was complete flaccid paralysis of the right leg, 85 per cent paralysis of the left leg. Pain was directed to the knee and to the lumbar back. In hospital the diagnosis of poliomyelitis was confirmed by four consulting physicians. Spinal fluid cells were 82. No medication of any type was given exclusive of vitamin C. Massage was started immediately. The rationale of using early massage had two bases: 1) In the course of general practice patients would give a history of having had poliomyelitis when a child and that their mother rubbed the paralyzed member day and night until function returned. 2) That paralyzed muscle was in profound shock and "artificial respiration" would maintain proper metabolism

during the emergency phase. To the first injection of vitamin C there was definite response. After 96 hours the child was moving both legs. The flexion was slow and deliberate. She was discharged from the hospital at this time, vitamin C being continued by mouth—1000 mg. every two hours with fruit juice for seven days. On the 11th day of treatment the child was walking about the house, but her gait was slow and her posture was poor, being bent forward. Vitamin C was discontinued and vitamin B₁ started—10 mg. before meals and bed hour. Carbonated drinks were encouraged for their sugar content and mild stimulating action. Nineteen days after starting treatment there was complete return of sensory and motor function which has persisted to this date.

A boy of eight years was brought to my office with a history of having had "flu" for a week, and four days previously having developed photophobia, conjunctivitis, sore throat, nausea, vomiting and a back-of-the-eyes type headache of such intensity that adult doses of aspirin had no effect. The boy was either rubbing his neck on the left side or holding his head between his hands, begging for something to relieve his pain. The fever was 104.4 (Ax.) He was tender in the lumbar region and he had a drawing sensation referred to the hamstring attachments at the knee. Two grams of vitamin C was given IV while in the office. He was then sent to the local hospital where he received promptly a second injection of 2 grams of the vitamin, after which it was given every four hours. Six hours after commencing therapy the neck pain was gone, the headache completely relieved, he could tolerate the ceiling light, his eyes were dry and the redness clearing. Nausea and vomiting had disappeared, the fever was down to 100.6 (Ax.), and he was sitting up in bed in a jovial mood while he drank a carbonated beverage. He was discharged from the hospital after receiving 26 grams of the vitamin in a 48-hour period, clinically well. Vitamin C was continued by mouth, 1500 mg. every two hours with fruit juice for one week, then change was made to vitamin B₁, 25 mg. before meals and bed hour. Vitamin B₁ in these cases should be continued for a period of no less than three months as nerve tissue is slow in recovering from damage.

In using vitamin C as an antibiotic minor complications were occasionally seen. These fall into six groups: 1) Diarrhea in two cases. In each instance the preparation contained sodium bisulfite. The enteritis cleared on giving a preparation of vitamin C not containing this salt. 2) Induration in 42 cases—seen either immediately following the injection (allergy), or delayed. In the latter it was found that the injections were being given too close to the surface. Applications of warm magnesium

sulfate as a compress gave prompt relief of the pain and swelling. In two of these cases fluctuation ensued and healing was effected by surgical drainage and the application of compresses. The impression in these two cases was that a vein had been opened by the needle. The exudate was dark and both the slide and culture studies were negative for bacteria. 3) Endothelial irritation in three cases. Acute pain radiated from the site of the injection to the shoulder. In each instance the concentration of the vitamin was one gram to each 5 c.c. solution and the amount given exceeded two grams. After slowing the rate of injection this reaction did not occur. 4) Venous thrombosis in one case. The concentration was 500 mg. per c.c. solution; the total dose 5 c.c. Compressing relieved the pain. The pathology was very similar to that following the use of 50 per cent dextrose solution. 5) Syncope—In maximum doses given IV a sensation of fainting and dyspnea occurred seven times. Five of these patients were over 55 years of age. The disagreeable symptoms were relieved by slowing the speed of the injections. 6) Rash—In three cases a pin-point dermatitis occurred, limited to the face and upper third of the torso, identical to that seen in infants taking orange juice. This did not necessitate discontinuance of therapy and cleared spontaneously several days after vitamin C was stopped.

Calcium, *in vivo*, duplicates the chemical behavior of vitamin C in many respects. Calcium gluconate and calcium lexulinate were used in conjunction with vitamin C therapy in a small series of pulmonary virus infections and in mild cases of influenza. There was a definite synergistic response. Patients with colds derived most benefit from this combined treatment. Because of its action on cardiac muscle, the use of calcium was limited to adults and the amount injected to two grams per day. One gram administered IV at moderate speed will so slow the heart as in many cases to produce syncope. If the concentration becomes great enough cardiac arrest in a tonically contracted state might result. It is, however, quite possible that, with the proper ionic balance of calcium and vitamin C in the same solution, larger amounts could be given without side effects. The massive dose schedule limits the usefulness of the calcium ion in virus diseases to that of an adjuvant only.

In all of the cases of virus infection reviewed in this study one laboratory finding stood out as of great significance. On admission to the hospital the first routine urine examination showed some degree of glycosuria. The pattern of the qualitative Benedict's reaction was constant enough to postulate that the higher the reading the more severe was the pathology. Repeat urine sugar studies following vitamin C therapy revealed complete clearing. This was true even though fruit juices were forced to tolerance. This finding confirmed the

knowledge that interference with the normal physiology of the adrenal glands, either by the toxins produced by microorganisms or by surgery, has a profound influence on metabolism, especially of the carbohydrates. Adrenalin in the blood stream causes hyperglycemia with resulting glycosuria. Adrenalin acts either by stimulation of the sympathetic nervous system or directly via the blood. This action of adrenalin is via the blood only, because the effect, as demonstrated in experimental animals, is still realized after destruction of the cord and sympathetic plexuses and degeneration of the peripheral post-ganglionic fibers (Evans, 1930). The glycosuria found in these cases was not due to a lowering of the threshold for sugar excretion by the kidney, paralleling a phloridzin diabetes, since the carbohydrate mechanism was associated with a hyperglycemia (Zuelzer, 1901, Metzger, 1902, Paton, 1903). Likewise there was no evidence of kidney damage. Albumin was reported negative and the microscopic examination showed no cells or casts. Apparently this is a condition of artificial diabetes mellitus, which would suggest the answer for the diabetic who loses ability to maintain sugar-insulin balance when embarrassed with an acute infection.

The story of a 7-year-old boy may have a lesson. He has been known to be diabetic since the age of four years. Any incident of infection in this lad produced an alarming interference of his sugar-insulin-diet equilibrium. Recently he contracted measles, and as the disease process developed toward its height the urine sugar curve swung sharply upward. From an occasional dose of 5 units regular insulin his requirement rose to 30 units regular insulin, three times each day, while still running a 3- or 4-plus Benedict's test. (Other forms of insulin proved by trial to be too dangerous.) At the peak of his infection vitamin C was started in a modifying dose of one gram every four hours. His general condition soon improved and in the course of several days he returned to his usual diet-insulin schedule and his usual urine sugar. In patients with diabetes, vitamin C should be discontinued just as soon as the temperature returns to normal. Prolonged use of vitamin C might prove undesirable due to its dehydrating and diuretic powers.

The pathologic process at work here is only compatible with abnormal amounts of adrenalin in the blood stream. It is not a response to an emotional stimulus to the adrenal medulla, since free adrenalin in the circulating blood has a transitory action, being so rapidly oxidized that none gets into the urine. This suggested that the regulator of the adrenalin mechanism had been removed, so that a constant supply of adrenalin would be present in the blood, making possible a concentration sufficiently high to cause constant vasoconstriction.

Ritzmann (1909) found that adrenalin affected carbohydrate metabolism only when this vasoconstriction phase existed. This finding was concurred in by Lusk (1914), who further concluded that this action on blood vessels caused asphyxia of the tissues which tended to increase the acidity of the blood and the tissues. This superimposed acidity further promotes the production of adrenalin hyperglycemia (Peters and Geyelin, 1917). McDannell and Underhill (1919), studying these phenomena in rabbits, found that slight hyperglycemia could be controlled by the administration of sodium carbonate.

The rationale of forcing fruit juices in the old treatment of colds was based on this theory as postulated by Hawley et al. (1936) that a highly alkaline urine would have lower amounts of vitamin C than a highly acid urine; the alkaline ash from the organic acids serving to retain the vitamin C in the blood and tissues where Nature had assigned it to guard against the many enemies of the body—the toxins and ferments of bacteria. As a result of avitaminosis C, liver glycogen is mobilized—glycogenolysis; and further storing of sugar in the liver is prevented—glycogenesis (Mackenzie, 1917). To further enhance the hyperglycemia this vasoconstriction brings about a decrease in the pancreatic secretions by lessening the amount of blood passing through the gland (Mann and McLachlan, 1917).

That the adrenal glands and vitamin C are closely allied in the defense of the body has been proven by experimentation and by autopsy. In normal persons any excess of vitamin C is excreted in the urine. In persons suffering with an acute infection, particularly a virus infection, vitamin C is not only absent from the urine but is also missing from the blood serum. This is true even when moderate amounts are given intravenously. These observations on serum were made with a Klett-Summerson photoelectric colorimeter using the method described by Mindlin and Butler. The observations on the urine were conducted according to the instructions of Goldsmith and Ellenger. Harde and Benjamin (1934-35) found the vitamin C fraction of the adrenal glands greatly reduced in monkeys killed or paralyzed by the virus of poliomyelitis. Yavorsky, Almoden and King (1934) reported identical findings in humans having died of various infectious agents.

This gives us an important concept of the value of vitamin C in virus diseases. The explanation for the absence of vitamin C in the infectious states is that this agent joins with the toxin and/or virus to form a new compound which is then destroyed by oxidation. Since the body is dependent on food for vitamin C to meet its daily needs, it is obvious that the body tissues would soon be depleted, and we would expect to find evidence of a prescor-

butic state in patients who had hypovitaminosis C. In patients seriously ill with a virus invader, the added strain on the capillaries by the application of a tourniquet, even for a few seconds, produced petechial hemorrhages at the site of constriction. Since not all patients thus demonstrated this capillary weakness, all patients ill with a virus infection were investigated by the aid of a petechiometer. Increased capillary fragility was found to exist in all cases, and the number of petechiae as expressed in centimeters of mercury followed the urine sugar findings. This deficiency syndrome was reversed as the glycosuria cleared, indicating that both were responsive to a proper plasma level for vitamin C.

At this same time the anaerobic conditions in the tissues will be relieved by the catalytic action of vitamin C acting as a gas transport to aid this cellular respiration. The abnormal acidity of the blood and tissues will be removed and abnormal amounts of free adrenalin will disappear from the blood stream. Following this the constriction of the blood vessels will cease, allowing the liver and pancreatic tissue to return to normal function. Continuance of frequent injections of properly calculated doses of vitamin C will restore the normal physiology of the body. This is not all of the story.

Lojkin (1937), studying the various phases of the inactivation of crystalline tobacco mosaic virus by 1-ascorbic acid, suggested that the action was not due to reduced vitamin C nor to the irreversibly oxidized dehydroascorbic acid. Lojkin felt that it was due to a specific intermediate product which is formed in the course of the catalytic auto-oxidation of vitamin C, an action stimulated by the presence of copper ions. This intermediate product must be a peroxide because a peroxide is formed during copper-catalyzed oxidation of vitamin C. This peroxide is decomposed as rapidly as it is formed (Barrow, De Meio, Klemperer, 1935-36). Lyman and associates (1937) confirmed the peroxide theory by observing that the oxygen uptake, beyond that calculated for the reaction ascorbic acid to dehydroascorbic acid, was not due to further oxidation of dehydroascorbic acid to an irreversible oxidation product, because treatment of the oxidized solution with hydrogen sulfide gave complete recovery of the ascorbic acid. These men also found that copper catalysis accelerates not only the reversible oxidation of vitamin C, but also further oxidation of dehydroascorbic acid. This action of the copper ion elucidates the findings that vitamin C in massive, frequent doses works better in the body than in a laboratory test tube.

Hippocrates declared the highest duty of medicine to be to get the patient well. He further declared that, of several remedies physicians should choose the least sensational. Vitamin C would seem to meet both these requirements.

Drug Addiction

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ONE OF THE DEADLIEST EVILS menacing our population is drug addiction. So widespread and appalling has this evil grown that, whereas a few years ago there were 50,000 addicts found in the United States, it is estimated that in New York alone today are to be found approximately 50,000.

In not only the adult group but also in the teen-age group is the increase in drug addiction being noted. For example, we have just admitted to Edgewood Sanitarium Foundation a 19-year-old boy addicted to the use of demerol. Recently the City of New York reported that during the first two weeks of January, 1951, police arrested from the school grounds alone more than 250 peddlers and buyers of addicting drugs. Many other large cities, including Buffalo, St. Louis, New Orleans and Chicago, report that drug addiction among their youth has reached appalling proportions, being responsible for a large percentage of lawlessness, crime and draft rejections.

Admitted for treatment at the Federal Hospital at Lexington, Kentucky, during the first ten months of 1950 were 203 drug addicts under 20 years of age; while during the year 1948, only 13 youths in the corresponding age group were hospitalized in that institution.

The evil of drug addiction is by no means a new one. Many thousands of years before the birth of Christ, the users of opiates were found in large numbers in the Orient, the original home of the deadly opium poppy. With Serturner's discovery of additional ingredients in opium, 1804 saw the beginning of modern alkaloidal medicine. The two most powerful derivatives of opium, morphine and heroin, were both products of the 19th century. Though in 1898, heroin, the new compound, was actually hailed by medical men as a non-habit-forming substitute for opium or morphine or even as a cure for drug addiction, it has turned out to be three times as powerful as morphine and equally habit-forming. In fact, so powerful is heroin, the most toxic of the addicting drugs, that its manufacture and prescription are outlawed in this country.

Since the discovery of the drugs named above, many analgesics, antispasmodics and sedatives have found their way into the market. Since one of the requirements of a skillful physician is his

ability to ease the pains of his patients, it is easily understood how the use of these powerful drugs among the physically and mentally ill throughout a population of 151,000,000 people, should prove extensive. Fortunately, the dispensing of drugs by both physicians and pharmacists remains under good control and only in the occasional case of the physician who thoughtlessly prescribes drugs too freely for the relief of pain or unknowingly prescribes drugs which later are proved habit-forming, can drug addiction among patients be termed the responsibility of the physician. Illicit traffic and smuggling, violations or misinterpretation of the Harrison Narcotic Act are conclusive factors contributing today to the dilemma in which the country finds itself.

This paper is concerned chiefly with a description of a few of the drugs causing widespread addiction within the United States at the present time. It attempts, also, to show the etiology of addiction, the types of personalities who most often are victimized, the physiological and psychic problems involved among users of drugs, the types of therapies administered, a description of withdrawal symptoms and prognosis in drug addiction. Mention will also be made of the widespread use of demerol, a product which, since its initial use in 1939, has been very widely but unwisely prescribed as a palliative for pain. Though its entrance also was hailed as non-addicting, the position that habituation does not develop on this preparation is no longer tenable. It is also conclusively proved that the barbiturates in general are addicting drugs. In fact, addiction to barbiturates is far more dangerous than is addiction to morphine.

Addiction is not a disease, but rather a symptom of a psychiatric disorder in which the initial part of the treatment is withdrawal of the drug. It can thus be readily inferred that addiction represents a condition of chronic intoxication usually based upon a personality disorder. In such a condition, psychic dependence or habituation is present; and because of the pleasant effects produced by its frequent repetition, the victim loses self-control with reference to the drug. Because of the deleterious effects of the drug upon the victim, addiction represents also a serious menace to the individual as well as to society itself, which looks with great apprehension upon this problem of such serious import to medicine and sociology.

With prognosis in drug addiction very poor up to the present time and with little basis for optim-

mism concerning a permanent cure for addiction, it is no small wonder that we are so frequently asked: "Why does anyone want to form a habit that can lead to such dreadful consequences?" No one is actually desirous of becoming habituated to the use of drugs; but a glance at the reasons for addiction and the types of personalities becoming victimized by the drugs will reveal the complexity of the situation.

ETIOLOGY

From every walk of life—the wealthy and the poor, the high and the low, the old and the young, the intellectual and the stupid—drug addiction exacts its toll. For various reasons individuals fall victim to drug addiction, though environment and association, personality defects, ease of access to the drugs and over-long use of analgesics for the relief of pain are perhaps the principal contributing factors.

It is often true that, because of over-long medication as in the case of painful illness, a patient forms the habit which he can not overcome. Sometimes this condition develops, as has been noticed, because of the carelessness of a few doctors. Because of the easy accessibility of the drugs, among those individuals in occupational groups—as nurses, doctors and pharmacists and their wives—the drug habit develops. Because of the social influences exerted by one addict upon a friend or acquaintance, many fall victim to the drug habit. Usually there is present a psychiatric disorder which finds such satisfaction through the use of the intoxicating effects of the drug that a person is wholly unaware that the drug habit is gripping him with octopus-like tentacles. Before long he learns that in order for him to be relieved of the distressing symptoms which follow his attempt to abstain from the drug, he feels compelled to take an additional dose; but by so doing, he only increases his tolerance. Then as his distressing withdrawing symptoms increase in intensity, he seeks an even larger dose of the harmful medication, thereby setting up a vicious circle from which he is powerless to set himself free. The psychiatric disorder which prompted his initial use of the drug might have been the expression of self-centeredness or a neurosis developed through painful situations. It might have been a chaotic sexuality or homosexual manifestations. It might have been occasioned by extreme poverty, deplorable home atmosphere, ambivalent ties to the parent of the same sex or even to a sort of aimless existence. The feelings of euphoria, of pleasant relaxation, semisomnolence with pleasant tingling in the body parts bring agreeable relief to the stresses of everyday living; and as the habit fastens itself more and more firmly, the victim is willing even to endure the resultant loss of appetite, nausea, itching and con-

stipation.

Not to be regarded lightly is the idea that in the larger cities of America today, youths are regarding the use of drugs in the same manner in which they regard a novel style of hairdressing or a chic style of clothing. Within the privacy of their home or the secrecy of their gangs, they are improvising hypodermics from safety-pins and medicine-droppers and administering frequent daily doses of the drugs, only soon thereafter to become ensnared within the deadly clutches of the opium derivatives, heroin and morphine in particular. Frequently youthful addicts resort to stealing and many other criminal practices in order to procure funds for purchasing their drugs, oftentimes paying as much as forty dollars daily for their desired dosages.

It has been noted that male addicts outnumber female addicts six to one, and that residents of the cities, especially the large centers, are more often addicted than are the rural dwellers. Among those authorized to deal in drugs, the addicts usually have reached their fourth decade when addiction manifests itself; but among those not so authorized, the age of addiction is below the fourth decade.

WITHDRAWAL SYMPTOMS AND SOCIAL EFFECTS OF DRUG ADDICTION

It should be remembered that the distressing symptoms which develop when the stage of established addiction has been reached, the seemingly-uncontrolled physical dependence upon the drug, and the inexplicable craving are not the only untoward effects. The deadening of the senses, loss of memory, stupor, delirium, hallucinations (in some cases), ostracism from society, and the possible development of congenital addiction in the offspring of addicted parents—all these afford ample proof that abuse or improper use of the habit-forming drugs in present-day society is indeed a serious problem.

Suicide is exceedingly common among drug addicts; and many crimes perpetrated, especially by those psychopathic personalities who have turned to drugs, are the order of the day. It should be borne in mind, however, that most drug addicts are not criminals in the ordinary sense of the word, though many are compelled by the craving for the drug, to resort to an occasional minor offense in order to obtain the medication. Usually the addict is malnourished, and it is only after a dose of the drug that a change from a somewhat timid individual to an assertive one occurs. Inasmuch as biologically and mentally the addict is grossly changed, addiction should be considered a psychobiologic habit-formation, characterized by craving for the drug, tolerance for the drug, and symptoms of withdrawal. Thus far, scientists have

been unable to determine the physiological mechanisms which occasion the almost-maniacal craving.

COMMON ADDICTING DRUGS

The drugs most commonly causing addiction today are morphine, cocaine, heroin, chloral hydrate, bromides, amphetamine (benzedrine), paraldehyde, thiocyanate, cannabis sativa (known also as marihuana or hashish), the barbiturates (nembutal, amytal, and seconal the preferred ones) and opium. Addiction to opium is very rare in America though very common in Oriental countries where its present use is mostly in pipe smoking. Marihuana addiction is unknown in Europe, but is common in Mexico, Central America and some sections of North America. Though the dangers from this drug, sometimes taken in a drink known as *mescalitos*, or smoked in cigarettes called *recares*, have been somewhat exaggerated, marihuana has posed a serious problem among adolescents. After using the drug, the smoker (or drinker) feels as if he is floating in air. He is exhilarated and euphoric; his instincts are no longer inhibited; and he is very likely to commit sexual violence. Though these effects are of short duration, many psychopathic personalities develop a chronic dementia from use of the drug.

A brief description of some of these drugs and their withdrawal treatment follows.

COCAINE

Addiction to cocaine is often found among the prostitutes and criminals. When psychoses develop in cocaine addicts, they experience not only euphoria but also frightful hallucinations (visual, tactile and auditory). If victims resort to more cocaine, they then experience outbursts of rage colored with marked jealousy. Cocaine addicts suffer from intellectual impairment, anxiety and diarrhea.

WITHDRAWAL OF MORPHINE

Following a psychiatric and a physical examination of the patient during his first 24 hours of hospitalization (during which time he is kept on his regular dosage), I begin the withdrawal of morphine while the patient is relaxed and stabilized rather than administering a sudden, so-called "cold turkey treatment," a cruel procedure which provokes terrible suffering. At my hands the most effective procedure, and the one with fewest withdrawal symptoms, is:

A maintenance dose of morphine every two hours day and night, every succeeding day the dosage being cut in half. When the drug has thus been reduced, for example, from an initial dosage of one-fourth to one-sixteenth grain and the physical condition warrants a substitution, the morphine dosages are alternated with those of methadone until the patient is completely off the morphine dosage. Gradually also the dosage of methadone is

decreased until the patient is off that drug altogether. Throughout the entire treatment, the morphine addict has been given also sub-convulsive doses of insulin, the initial dosage of 15 units having been gradually increased to 40 units twice daily before meals. Supplements to this therapy are glucose (500 c.c.) and salines, while nicotinic acid and thiamin chloride serve to build up any vitamin deficiency. Thus in a well-balanced program adequate nourishment is provided, as well as means for increasing appetite and energy, and for lessening tension and anxiety.

Of great importance also are such things as adequate stay in the hospital, occupational therapy, future plans for rehabilitation, affiliation with physicians, ministers, social service departments or Narcotics Anonymous, as well as periodic follow-up examinations.

BARBITURATES

With the comparatively recent emergence of the barbiturates, chronic intoxication among users of drugs of this class—seconal, amytal and pentobarbital (nembutal) in particular—has become so widespread as to be a matter of grave concern to the medical profession and to society in general. It is stated by the United States Public Health Service that during the year 1948, the total production of barbiturates in this country amounted to 330 tons, or approximately 24 doses of 0.1 Gm. for each person throughout the entire country. It cannot be denied that this immense output is far in excess of the need of barbiturates for therapeutic purposes.

Though it was formerly believed that barbiturates were not addicting, it is now well established that addiction to barbiturates is even more pernicious than is addiction to any opiate. Often times, in seeking a solution to life's difficult situations, susceptible personalities and many under emotional strain resort to the use of barbiturates. Addiction to these drugs causes cortical depression and cerebellar dysfunction.

Among individuals chronically intoxicated by barbiturates severe withdrawal symptoms are experienced; in reality, abstinence from barbiturates proves more dangerous to life than does abstinence from morphine. (The Federal Hospital at Lexington has recently reported also that more deaths occur from acute intoxication to barbiturates than from poisons of any other kind). Withdrawal symptoms from chronic intoxication express themselves in weakness, nausea, abdominal cramps, vomiting, fluctuation of blood pressure, rapid loss of weight, pallor, cardiovascular disturbances, hyperglycemia and increase of the non-protein nitrogen of the blood. In many individuals, convulsions, never exceeding three in number, occur between the sixteenth hour and the fifth day of withdrawal. These

are followed by a slight fever, weakness, change in posture, anorexia and nervousness. Frequently there develops a psychosis from which the patient usually recovers within two weeks of its onset.

At Edgewood Sanitarium Foundation, it has been our custom to carry out the withdrawal of barbiturates by the gradual reduction method in which we substitute insulin, glucose and vitamin preparations. When toxic signs indicative of convulsions appear, we administer a few capsules of sodium dilantin to prevent any seizures. The recovery from barbiturate intoxication and the barbiturate syndrome, as far as can be determined at present, appears permanent.

METHADONE AND MEPERIDINE (DEMEROL)

To German scientists mankind is indebted for methadone (syn. *dolophine*), a synthesized product twice as active as morphine (on persons not in pain). This drug affords relief from the pain of inoperable cancer, disorders of the bones and nerve roots, coronary occlusion, rheumatic pericarditis, renal colic, headache and so on. Though this drug, released only since the Second World War, is more toxic than morphine, its prolonged administration seldom results in euphoria. It has, however, been found to be a dangerous addicting drug and has been subjected to the same Federal restrictions imposed on morphine. Methadone is frequently used as a substitute drug, during the withdrawal treatment of morphine and of dehydromorphenone (syn. *dilaudid*), as individuals do not develop marked symptoms on withdrawal of methadone.

Likewise to German scientists, mankind is indebted for meperidine (syn. *demerol*, *isonipecaine*, *dolantin*). This drug, in the form of the hydrochloride, has found an exceedingly wide use in the United States. A narcotic prescription is required. Administered orally, intramuscularly, intravenously and subcutaneously, it is proving more and more to be extremely habit-forming, though when first placed upon the market, it was otherwise hailed. Because of this misconception, some physicians have too freely prescribed the drug as an effective analgesic.

I have experienced more difficulty in taking addicts off demerol (and large doses of barbiturates) than off any of the other drugs. When the demerol dosage is reduced, the patient becomes anxious and tense. He is very likely to develop a toxic psychosis in the form of manic delirium. I have found that when this occurs, nothing is so effective for relieving his disagreeable symptoms as a few treatments of electro-coma.

THERAPY

It is my conviction that drug addiction cannot, with the facilities available at present, be treated successfully on an out-patient basis or even on an in-patient basis at a general hospital (unless it be

carried out on a psychiatric ward). A patient recently seen who was taking enormous doses of demerol, had been treated by a psychiatrist who stated that she was not addicted to a drug, but was suffering from an underlying problem, proper treatment of which would cause her to lose desire for the drug. He was seeing her for an hour each day and administering some form of psychotherapy. This patient was eventually put into an institution. She was too toxic from the demerol to derive any profit from or even to comprehend the therapy. It is necessary to hospitalize all patients of this type until they have been completely taken away from drugs and all evidence of toxic symptoms have subsided before we can expect them to derive any benefit from psychotherapy.

An addict under hospital care, must be regarded as a patient in dire need of humane and skillful treatment, reeducation and rehabilitation and not regarded as a criminal offender. From every angle of his personality the patient must be studied. His treatment schedule must include psychotherapy, recreational and occupational therapy. He must be convinced that treatment for drug addiction is time-consuming, and resolve to remain hospitalized for an adequate period. Upon discharge, he should also be encouraged to return periodically to his therapist for follow-up examinations lest future disturbances occur. It is also advisable to encourage some patients to establish connections with the newly-organized Narcotics Anonymous, in which organization they will receive understanding, encouragement and support, as well as the stimulus to remain abstinent from drugs.

Two of our greatest problems in giving effective treatment is to prevent the smuggling into the institution by patients or relatives, and retaining the patient long enough for him to get over the toxic effects and to convalesce completely. I am sure that the relapses would not be so close together if a more effective and a longer period of hospitalization could be carried out. Usually when a patient's drug is reduced to a minimum, he begins to make excuses and demands to leave the institution. It is very difficult then in many cases to complete the treatment, because of the inadequacy of the mental hygiene laws. It is a great satisfaction, however, to know that the laws will protect therapists in such a manner that if a Board of Physicians finds a patient is psychotic from drugs, he should be kept under hospitalization until he has cleared before being dismissed to society. It is also essential that therapists get the fullest co-operation of the referring physician and of the patient's family.

During the past two years we have treated 150 patients for migraine headaches, many of these complicated by physical aspects, others representing

nervous types of personalities. A very common somatic complaint that leads to drug addiction is the anxiety tension headache. We find that there is a long history of severe headaches produced by tension, anxiety and other environmental factors. Many of these patients make their rounds from doctor to doctor and are given various forms of barbiturates, demerol, morphine and other opiates; whereas a careful analysis of the personality made at the beginning of their illness would have revealed that what the patients needed was treatment for their anxiety and tension before they became addicted to drugs. I am sure that all medical men are aware of this hazard, but I mention it because in many places these cases are becoming numerous, and by the time we psychiatrists see them, they show not only the symptoms of toxic psychosis from these drugs, but also physical and mental deterioration to the degree that causes us to wonder whether they can be fully rehabilitated.

It is essential that, after patients have left the hospital, they be followed as our patients over a long period of time to prevent relapses. If the history and background show that they are typical psychopaths, then they should be considered incurables, whereas those having other types of disability can be helped.

A serious problem is existing in our colleges and in our nursing schools, where it has become a fad to take benzedrine with the ostensible purpose of facilitating learning; but soon some find that the benzedrine has produced so much anxiety and tension that they seek help for something to relax them. Usually they find there are ways of obtaining nembutal and some of the other barbiturates for relaxation. Thus they use benzedrine to "pick them up" and nembutal to "relax them." A great many of our barbiturate addicts are also alcoholics. After using alcohol for some time, they become anxious and tense; then they begin to substitute some barbiturate, and this goes on until they become habituated to both drugs. After leaving the hospital, off barbiturates, they go back to alcohol.

Some alcoholics are made drug addicts by being given demerol and morphine. A patient of ours who had a gastric ulcer, produced by an underlying depression, when in much pain was given demerol. It was not long before he had become addicted to demerol, which necessitated hospitalization. Recently we were faced with the treatment of a patient with a severe gastric ulcer and a toxic psychosis from demerol. He refused to eat, constantly complaining of pain, and demanding demerol. He was given the gradual demerol reduction method, and frequently given glucose and vitamins, but we found it impossible to take the demerol away entirely without recourse to electro-coma treatment. After a few treatments, his depression left him.

He then made no demands for demerol. He was in the hospital six weeks and was taken out against medical advice, but during his hospitalization period he gained twenty pounds. Another patient in middle age who had had a gastrectomy, complained of a great deal of gastric pain, and was taking large doses of morphine. It was impossible to free him from the clutches of the drug by gradual reduction, but insulin and electro-coma relieved his pain. We frequently see patients with cardiac disease who are depressed and so suicidal that we dare not leave them alone, lest they destroy themselves. These are patients addicted to barbiturates, many of them having been confined to bed over a long period and given large doses of barbiturates. These are difficult cases to treat because the organ's cardiac disease has been added a cardiac neurosis. Here the gradual reduction method is difficult, though it can be effective if psychotherapy is used in conjunction over a longer period of time.

PROGNOSIS

The problems involved in drug addiction will remain baffling until many sciences engage in co-operative effort to determine the basic causes of addiction and withdrawal distress. Though experiments with medications for withdrawal distress have been carried on for a hundred years, they have yielded little fruit.

Relapse following treatment for drug addiction is very frequent. For effecting a cure, a radical psychological change must be brought about in an addict. Though a few addicts have remained abstinent over a number of years, most of them have relapsed. Encouraging are reports from the Federal Hospital in Kentucky that 15 to 20 per cent of the addicts treated there have remained abstinent.

As long as drugs are prescribed for those individuals whose constitutions seem susceptible to addiction, and as long as financial profit can be found in the illicit traffic in drugs, medical practitioners will be faced with the age-old problem of drug addiction. As long as pain continues to wrack the sons of Adam, physicians must prescribe sedatives, antispasmodics and analgesics.

What then is the goal of practitioners as they continue their merciful effort to bring comfort to human sufferers? Surely it can be nothing other than finding new agents for relieving pain by means other than habit-forming medications. Up to the present time, science has been unable to furnish a satisfactory answer, though the psychic influence on drug action in patients cannot be discredited. It is the duty of a physician, not only to give his patient some specific medication by which his pain will be relieved, but also to inspire in him confidence and assurance of the proper kind. By this procedure the patient will be less likely to

exaggerate his own physical discomforts.

When the helpless individual suffering because of emotional maladjustment seeks help from his physician in dealing with a coercive environment, what can the general practitioner offer him other than an analgesic for his pain? What can the practitioner offer to that other type of patient who, because of physical suffering occasioned by surgical operations or organic illness, requests relief from his painful sensations? The age-old enigma will perhaps remain, unless science can produce a non-habit-forming agent which will afford relief.

Though it is possible to relieve pain by the application of electro-coma therapy, and though it is possible to bring about relaxation and relief from pain through the use of sub-convulsive doses of insulin (the only non-habit forming drug thus far discovered), general practitioners are not yet equipped to provide such therapies. Psychological treatment will prove efficacious in some cases in which the therapist and patient can talk over difficult situations while the former devises plans for solving the problems occasioning his patient's distress. Other patients will need something more than such sessions of psychotherapy. This unsolved problem is one that rightly challenges the ingenuity of all scientists of the present age.

INSTRUCTIVE CASE REPORT

(T. B. Mallory et al., in *New Eng. Jl. of Med.*, Feb. 1st, 1951)

A 72-year-old man was thin, dehydrated, drowsy, acutely ill, with marked Parkinsonian tremor. The nose was absent. The heart and lungs were normal for his age. The abdomen was slightly distended, with mild diffuse discomfort on pressure. Occasional high-pitched peristaltic sounds could be heard. No masses could be felt. A small, firm, non-tender, slightly irregular, irreducible subcutaneous mass 2 by 2 cm. in the right groin, overlying the inguinal ligament medially to the femoral pulsation. Rectal examination negative.

T. 100°, p. 90, h. p. 130/70. Urinalysis neg.; stool guaiac test neg. WBC initially 18,000; after six hours of hydration 7,000, thereafter 4,700 to 7,000. Plain x-ray films showed gas-distended loops of small bowel in the upper and lower left abdomen.

Dr. C. E. Welch: Many histories from very sick patients or from their wives are inaccurate.

45% of all small-bowel obstructions are caused by hernias. Richter's hernia is an incomplete hernia through the femoral ring.

Appendicitis in an old patient may produce a picture that is very difficult to diagnose. There is usually much more disease inside old people than is apparent. Acute small-bowel obstruction, inflammatory lesion in the right lower quadrant: the hernia not the cause; probably the cause of the inflammatory lesion was acute appendicitis.

Dr. Roger Newstedt: Our preoperative diagnosis was small-bowel obstruction with femoral hernia, and probably obstruction due to an adhesive band, or something of that sort. We considered Richter's hernia, but we believed we had eliminated that because of the laboratory and abdominal examinations.

Anatomical Diagnosis: Femoral hernia with partial incarceration of small bowel (Richter's hernia).

If there are sufficient psychiatrists available, patients with obvious psychoneurotic or psychosomatic disorders, who do no respond quickly to the use of medication, should be referred for expert psychotherapy.

There are no therapies that the physician can give to the psychologically unstrung that can compare in effect with the impression that the patient is his chief interest, that time is not limited, and that the physician is prepared to sit down and give him good advice.

—L. S. Selling, Orlando, in *Jl. Florida Med. Assn.*, Feb.

OBSERVATIONS ON 360 CASES OF PRIMARY SYPHILIS

(E. H. Jones, in *Ohio Med. J.*, Feb.)

A study is reported of 360 cases of syphilis in each of which the primary lesion was present. The median age of incidence was 24 years: the sex ratio was 85 males to 15 females.

The febrile Herxheimer reaction was found of no value in anticipating success or failure of treatment.

In primary syphilis the seronegative and low-titer (earlier) cases have a better chance than those with high titers (later). Early diagnosis, preferably by darkfield test, is the *sine qua non*.

One week of penicillin therapy totalling up to 4,800,000 units is not enough for primary syphilis. In our hands penicillin, plus mapharsen and bismuth, has proven somewhat more efficacious than penicillin alone, the penicillin in each instance being confined to one week of therapy and the bismuth and mapharsen, when added, requiring eight additional weekly treatments.

THERAPEUTIC APPLICATION OF ANTIHISTAMINICS

(G. E. Farrar, Philadelphia, in *Penn. Med. Jl.*, Jan.)

The actions of histamine which are prevented or diminished by the antihistaminic compounds include bronchial and intestinal spasm, hypotension, increased capillary permeability, cutaneous wheal and flare, release of epinephrine from the adrenal gland, and salivation (but not gastric secretion). The other pharmacologic actions to a variable extent include: atropine-like (anti-acetylcholine), local anesthetic (like procaine but more irritating), hypnotic (like hyoscine), a weak quinidine-like action.

Antazoline hydrochloride and thonzylamine hydrochloride seems to cause the lowest incidence of untoward side effects, but likewise fail to relieve as many patients as do some of the other antihistaminics.

EXPERIENCES WITH A NEW ANTICOAGULANT

(G. W. Allen & Edgar Hull, New Orleans, in *New Orleans Med. & Surg. Jl.*, Feb.)

The use of "Compound 63" in 16 patients:

Potency is thought to be two or three times that of dicumarol.

The only hemorrhagic incident was an ecchymosis at the site of repeated venipuncture.

The two deaths were attributed to ventricular fibrillation.

One patient on compound 63 was given vitamin K. A good response was made.

APHTHOUS STOMATITIS

(V. H. Dietz, in *Military Surgeon*)

The cause of the common "canker sore" or aphthous stomatitis is herpes simplex virus. Some 80% of adults have fairly high blood antibody titre suggesting latent or active infection with the virus.

Lesions are usually self limited; treatment is directed toward relief of symptoms, using topically 8% zinc chloride solution, camphorated phenol, alum or silver nitrate stick. Recurrent aphthae may respond to repeated smallpox vaccination by reason of their close immunologic relationship; other cases respond favorably to vitamin B complex therapy.

Modern Technique in Facial Cosmetic Surgery

ROBERT ALAN FRANKLYN, M.D., Hollywood, California

THE hundreds of thousands of cosmetics and other commercial aids to beauty in the forms of creams, powders, facial massage treatments, bittings; skin peelings by means of caustics, carbon dioxide and ultra-violet light; muscle rejuvenation, chin pads, buckles, straps, masks and packs are proof of the everlasting determination of women to remain young and alluring forever. The millions of dollars spent annually on sales and promotion of these products form a staggering amount which well may be diverted toward more important fields and toward the only satisfactory way of abolishing wrinkles; i. e.—Facial Plastic Surgery.

1. REMOVAL OF WRINKLES OF THE FACE AND NECK

Tragic to most observers are the ugly, loose, sagging skin and lines that proclaim the march of time, especially in persons who still feel youthful. Where all the face creams in the world fail and no number of massages, facial treatments or skin peels can overcome the effect of age and loss of elasticity of the skin, the plastic surgeon can bring about a semi-permanent transformation by a face-lifting procedure which removes superfluous tissue. Millions of dollars are spent uselessly every year on devices, lotions, creams and various treatments offered by people with absolutely no knowledge whatsoever of medicine or surgery—money that can be saved, merely by consulting a cosmetic plastic surgeon.

Age-wrinkles of the facial skin begin around the lower eyelids and the neck before being noticeable elsewhere. Lower eyelid wrinkles may be congenital, present all through early youth and adulthood, or may appear after the twenty-fifth year as an aging process, growing progressively worse so that the young woman in her early thirties is the most frequent visitor to the surgeon in regard to this problem.

Neck-wrinkling, on the other hand, does not often show up until the late thirties or early forties have been reached. Thereafter, or coincidently with neck wrinkles, the patient notices deepening of the naso-labial folds—with jowl formation, fine wrinkles about the lip, longitudinal folds anterior to the tragus of the ear, droopiness of the upper eye lids and eyebrows with the skin hanging in folds, fan-shaped lines converging upon the outer canthus, "crow's feet." Transverse wrinkles across the forehead and vertical frown lines between the eyes usually complete the picture. The corners of the mouth tend to droop and in late cases the fibrotic cords of the platysma appear in the neck

causing ridges on either side of the midline. The ear lobes become elongated and the skin becomes lined and redundant behind and below the ear.

The skin itself may atrophy becoming dull, pigmented and discolored with telangiectatic vessels in abundance, and parchment-like due to loss of elasticity. Loss of subcutaneous fat may exhibit itself with sunken cheeks and temple hollows. Fat may accumulate along the mandible causing jowls, and under the chin giving rise to the much-derided double chin.

These symptoms and signs appear in either sex, but it is the woman who consults the surgeon because of vanity and the basic psychological reasons for remaining physiologically the "fairer sex."

Various exciting causes will precipitate the early appearance of wrinkles, such as sudden loss of weight due to dieting, debilitating disease, mental and physical strain, eyestrain, exposure to unfavorable physical elements such as weather-beating, ultra-violet rays, x-rays and radium, and abuse of the skin through use of various beauty devices and caustic skin-peeling concoctions.

Treatment for wrinkles is operative—first, last and in many cases always. However, the surgeon must appraise the subject from a psychological standpoint to see if an operation is advisable. Operation is always indicated for economic reasons—the patient meeting the public and wishing to maintain a pleasing appearance in order to compete satisfactorily. For psychological reasons the desire to look young cannot be denied anyone, especially when the man-wife relationship is involved—which is the usual case. The indication for operation is given by the patient herself; what may be only a trivial wrinkle formation to one woman is in the eyes of another a distinct sign of old age; therefore the surgeon is not to consider the necessity for such a procedure. Patients to be avoided are those using their disfigurement as a defense mechanism to explain away their personality shortcomings and those who are in a psychotic stage—depressive, schizoid, menopausal, psychopathic. These people will drive the surgeon to distraction with their dissatisfaction, no matter how excellent a result is obtained. A careful chat with the patient as to past history, emotional difficulties, reason why she wants the operation done, present attitude toward the wrinkles, economic status, future plans, etc., will form a reasonable basis for selection of patient.

The patient should be advised that the duration of the results is generally only from two to seven

years, that Time cannot be held to a standstill, and that often a series of repetitions will be necessary. However, in such a progressive series of operations the time lag between operations becomes longer and each successive operation gives progressively better results as the amount of excessive tissue becomes less and less—possibly due to better circulation and nourishment of the skin in accordance with the well-known principle of undermining of skin in delayed flap operations to give greater likelihood of a successful take.

Selection of Operation

Purpose:

1. To remove wrinkles in a given region.
2. To conceal operative scars.

This is generally accomplished by:

- A Operating at a distance from the deformity.
- B Placing the scar within or along a hair-bearing area.
 - a In scalp
 - b Along hairline of scalp
 - c In eyebrow
 - d Along eyelashes
- C Placing the scar behind the ear, under the chin, along the margin of the lip, or within the nose, as in the endonasal approach to frown lines.
- D Placing the scar in a natural fold or wrinkle line.

Techniques in Face-lifting Procedures

Preoperative:

The hair in the operative area is shaved, leaving, however, a sufficient amount along the scalp margin which is brushed forward so that it may later be combed over the healed scar—avoiding embarrassment to the patient. After careful cleansing and treatment with an appropriate antiseptic, a dry two-inch bandage is wrapped about the head and over this are placed strips of adhesive tape, keeping stray hairs out of the operative field and exposing the operative area. The scalp is then covered with sterile towels. A rough appraisal of the necessary amount of tissue to be removed is made by retracting the skin manually until a satisfactory appearance is produced. This area is then outlined with brilliant green or a similar dye. If the area to be excised is made too wide, there will be difficulty in approximating the wound edges, the face and the corners of the mouth drawn taut.

Operative:

The procedure is performed under local anesthesia using 1 per cent procaine with 1:40,000 epinephrine so as to reduce bleeding and maintain normal facial tone. A small 3-inch needle is inserted above and in front of the ear, and the anesthetic infiltrated subcutaneously downward toward

the lobe. A second series of injections is made from the ear lobe back to the mastoid process, a third infiltrating forward from the lower mastoid region to the cheek, and a fourth injection is made parallel to the first, two inches medially from the ear. Radial infiltrations towards the nasolabial folds are then made.

Following the technique of Lexer a reversed S incision is made in the temporal area with a fine scalpel, the skin dissected free from the temporal fascia for two inches medially, and a sufficient amount of skin from the median wound edge then removed. A silk anchor suture is inserted between the fascia over the malar area and the temporal fascia, thus drawing the cheek upward. The wound is sutured with subcutaneous silk to the temporal fascia and the skin closed with interrupted silk.

A second incision is made to smooth the neck and lower cheek. This also is made on a reverse S pattern by making a semicircular cut around the insertion of the ear lobe, continuing upward behind the lower half of the ear and across the mastoid process to the hairline. Wide undermining is then carried out from the lower wound margin past the naso-labial grooves and along the anterior part of the neck. Undermining is kept close to the skin surface to avoid damaging deep vessels, nerves, and muscles. Two anchor sutures are then passed between the fascia of the neck and chin and attached to the fascia and periosteum of the mastoid region, thus elevating the area to avoid change of expression. No sutures are passed through the muscles. As soon as the excess skin is removed from the flap thus made, careful hemostasis is observed to prevent formation of hematoma. The wound is then brought together by subcutaneous suturing to the mastoid fascia and the skin closed with interrupted silk.

The advantage of this procedure is that it effectively hides the operative scar—no incision being made in front of the ear unless extreme wrinkling is present in this area. The temporal or the postauricular operation may be done separately if the wrinkling is in only one area.

This entire operation is then performed on the other side of the face. To avoid suture tension the cheeks are drawn up by strips of adhesive. A sterile bandage is then placed about the head and removed on the seventh day, when the skin sutures should be taken out. Should only the temple procedure be followed, the sutures may be covered with gauze and adhesive and then the hair may be brushed out and over the operative area, thus allowing the patient to go about normal activities without attracting unfavorable attention. Vertical, lateral and neck folds may be removed by one skin incision in the cervical area or by vertical incisions just inside the hairline on both sides of the

nape of the neck.

Postoperative:

A soft or liquid diet should be taken for the first week in order to get along without chewing or opening the mouth widely, which would put undue tension on the line of incision.

Forehead Wrinkles

1. Vertical Frown Lines—Correction Through Intranasal Incision

Deep frowns may have their remote cause in chronic eyestrain or in simple habit. Any frown is directly brought about by contraction of the corrugator supercilii muscle, which arises from the frontal bone near the nasofrontal suture and is inserted into the skin over the medial part of the eyebrow.

The operative procedure is to make an intranasal incision between the lower edge of the upper lateral and the upper edge of the lower lateral cartilages, carrying the incision upward beneath the skin on the dorsum of the nose in the midline to the region of the frown in the glabellar area. The area of skin of the forehead containing the frown creases is completely undermined, and the medial part of the corrugator where it originates from the superior part of the nasal bones is excised with a nasal cartilage punch forceps inserted through the original intranasal incision. Excision should be made as close to the midline as possible, thereby avoiding the supraorbital vessels and nerves, which run superiorly from the supraorbital notch. A gentle pressure dressing is placed across the undermined areas for one week.

The advantage of this operation is that it requires neither external incisions nor suturing, thus obviating scar formation. It may follow a routine rhinoplastic procedure—the initial incisions being identical, increasing by only a few minutes the operative time of the rhinoplasty.

2. Horizontal:

A long ellipse of skin is removed from the scalp an inch posterior to the hair margin, a sufficiently wide area of hair brushed down over the forehead and the hair shaved from the operative area, the area carefully cleansed and then infiltrated with a local anesthetic. By means of skin clips an appropriate area of skin is lifted up to get the desired results and the area marked off with a dye to act as a guide. The lower edge of the elliptical incision is undermined to below the wrinkles present. The excess skin from the flap thus made is then removed and the wound closed with interrupted silk which is removed on the seventh day. A compression bandage is used across the forehead to prevent hem-

atoma formation. In case of a high forehead the incision is made just outside the hairline lest this objectionable feature be accentuated.

B An alternate procedure is to make a small incision in the temporal scalp close to the hairline and undermine the forehead skin along the wrinkles, following which fascia or fat grafts may be inserted following the wrinkle line. The wrinkle line may also be everted by means of mattress sutures.

Eyelid Wrinkles

1. Upper lid:

An ellipse of skin is marked off, sufficient to correct the condition, and infiltrated with procaine-epinephrine. The incision is made with fine scissors along a natural fold and the ellipse is excised. A 6-0 suture on an attached needle is used to close the wound margins. The sutures are covered with a gauze strip saturated in collodion and removed within three days.

2. Lower lid:

The incision runs along the border of the lid just under the eyelashes and lateral to the outer canthus, then follows a 45° downward path, allowing a triangular area of skin to be removed from this lateral wound margin, the base being upward and medial. A sufficient area of skin is removed from the transverse wound margin after careful undermining to smooth the excess skin wrinkles. The sutures are the same as those used on the upper lid. To avoid ectropion be sure not to remove too much.

II. NOSE

The desire of patients to achieve a normal appearance and to be rid of facial disfigurement is not only justifiable; it is praiseworthy. The unsightliness is a social and business handicap, jeopardizing their happiness, if not their very existence. Even small deformities of the nose bring about a psychological depression and inferiority complex, hindering both the social and business life of the patient; so the surgeon who remedies these disfigurements is a benefactor to the individual and to society at large.

However, the surgeon in planning for a rhinoplastic procedure must consider the relationship of the nose to the face. A normal nose may offend in a person whose defect is really a receding chin and a large nose may harmonize with the face if other features balance. A careful general examination must be carried out to determine the state of mental and general health of the patient. The surgeon should beware of neurotic and psychotic individuals and be sure that the patient's mental discomfort actually stems from the realization of being disfigured by the malformation.

Photographs of the patient should always be taken showing four views—right and left profile, full face, and with the patient's head tilted back giving a view of the shape and alignment of the nostrils.

The anatomic profile consists of three structures:

1. Nasal bones
2. Upper lateral cartilages and septum
3. Alar cartilages.

All of these components should normally form a straight line from the root to the tip of the nose with slight variations causing minor convex or concave noses within normal esthetic bounds. If these anatomic components protrude or recede excessively either in combination or individually, there is produced an abnormality of profile which offends the eye. Generally an angle of 30° from a line drawn between the forehead and chin is a correct profile angle. The width of the base of the nose should be equal to the interorbital width. The interorbital distance may appear narrow with a wide bridge—which when narrowed will give a relatively wider distance between the eyes and a better appearance of the patient.

To adequately reconstruct the nose, however, the surgeon must not so much depend upon mechanical devices, as "chinometers," to tell him what is wrong, but must have a trained and appreciative eye for facial symmetry and beauty such as that which an artist or a sculptor possesses. He can then proceed to alter the nose in such fashion that it is brought into harmony with the other features of the face. The successful rhinoplasty is one in which the nose is thenceforth never noticed.

Hump-Removal Operations

1. Preoperative:

One hour before the operation, the patient is given three grains of a short-acting barbiturate such as sodium amytal. Nasal hairs are clipped. The face is washed with soap followed by an antiseptic solution. The nasal vestibules are carefully cleansed with swab sticks saturated with hydrogen peroxide. The interior of the nose is then sprayed with a local anesthetic such as 3 per cent butyn. This allows the nose to be infiltrated intranasally with a 1 per cent procaine-1:40,000 epinephrine solution, using a syringe and 22-gauge, two-inch needle. The infiltration is carried out intranasally to avoid puncturing the skin which may possibly cause scar formation in susceptible subjects.

The first injections are made from within the nose through the lower border of the lateral cartilages on both sides, gradually advancing the needle and infiltrating over the lateral cartilages and the nasal bones, then continued downward along the membranous septum to the anterior nasal spine.

The lateral walls and alae are anesthetized by infiltrating upward from the bases of the alae to the nasofrontal suture.

The hump of the nose is removed subperiosteally, so the periosteum over the hump is elevated as soon as the first incisions are made. These are made along the looser borders of the lateral cartilages close to the dorsum of the nose using a curved, double-edged scalpel. Pointed downward so as not to puncture the skin the blade is advanced forward between the skin and the lateral cartilages and nasal bones effectively undermining this area. A probe-pointed hockey-stick scalpel is then inserted through either side and drawn downward along the top of the septum to the upper margin of the alar cartilages. The periosteum is then elevated with an elevator from the hump as far as the naso-frontal suture line. A bayonet saw is inserted through the operative incision on one side and placed against the bone at the appropriate level for removing the hump and drawing downward severing it from the adjacent tissues and the hump is removed with a pair of forceps. A very simple and swift hump removal can also be accomplished by use of a long bone-cutting forceps of the Asch-Franklyn pattern.

In case the hump is small, or it is desirable to leave a certain amount of hump, a rasp or chisel is used instead of the bayonet saw. A rasp is always used to smooth off the rough cut edges of the nasal bones and to achieve fine adjustments of the height and shape of the bony dorsum. A glabellar rasp may be used to achieve a more pronounced curve in this region. The lower end of the septum is then trimmed in order to bring it in line with the bony dorsum after severing the attachments of the lateral cartilages to the septum.

A result of these procedures is a flat appearance of the dorsum from an anterior view, so it is necessary to narrow the nasal bridge, by cutting through the frontal process of the superior maxilla of both sides, making an intranasal incision over the lower lateral portion of the rim of the pyriform opening with a double-edged scalpel, carrying it upward along the lateral surface of the frontal process of the maxilla, separating the skin; then elevating the periosteum in this area by pushing an elevator under the periosteum toward the inner angle of the eye, inserting an angled saw through the pyriform incision so that its point is just above the inner canthus and its length running along the nasofacial groove, then cutting the bone with an up-and-down motion, protecting the eye externally with the thumb and index fingers of the other hand. This maneuver is then repeated on the opposite side. The bones are still attached at the nasofrontal suture. Manual pressure with superimposed thumbs on each side fractures this attach-

ment and approximates the nasal bones narrowing the bridge.

Chisel and hammer may be used to fracture the bones at the nasofrontal suture, cutting through the bony web between the septum and nasal bones on both sides and then using outward leverage with the chisel to fracture the bones. Sometimes a triangular wedge must be removed by hammer and chisel from the nasal bones adjacent to the septum at the glabella.

The fractured nasal bones are immobilized in the midline by using small rubber sponge pads against the lateral wall of the nose on each side and holding these in position with adhesive tape.

Long Nose

A preternaturally long nose may or may not have a hump. A hump, if present, must be removed first. The excessive lengths of the lateral cartilages and septum are removed. A triangular segment is removed from the septum with a scalpel after first exposing the lower edge of the septal cartilage, freeing it from the mucous membrane. The columella is sutured to the trimmed septal cartilages by two silk sutures so that the tip of the nose may be advanced or set back, dependent upon the result desired. Part of the anterior nasal spine may be removed along with the septum if the upper lip is too short. The lower edges of the lateral cartilages protrude through the original incision and are shortened to correspond to the septal shortening with curved scissors so that the margins of the alar and the lateral cartilages are approximated without overlapping.

Hanging Septum

If the columellar portions of the alar cartilages are too wide, a drooping appearance independent of septal causes is brought about. A crescentic section is excised from the skin and the lower border of the columellar cartilages on both sides—thus reducing the convexity of the columella.

Web-like Nasolabial Angle

The angle may be lessened due to overdevelopment of the anterior spine of the superior maxilla. This bony projection must be excised after exposure in addition to the removal of a wedge of septal cartilage above it, after which the columella is sutured back to the septum by passing one suture through both sides.

Wide Tip

This is generally due to overdevelopment of the alar portion of the lower lateral cartilages, the columellar portion of which serves to support the nasal tip and columella.

Narrowing the tip is accomplished by causing a reduction in the size of the alar portion of the lower lateral cartilages as well as by forming a

more acute angle between the alar and columella of the cartilage.

Following the incision along the upper border of the lower laterals, the skin over the alar cartilage is undermined by blunt dissection. An incision is made through the angle of the cartilage at the midline of the nose and the cartilage exposed to view by inserting a retractor behind the upper border and pulling so that the cartilage is everted through the nostril. With fine scissors a sufficient amount of cartilage is removed from the medial cut surface of the cartilage on either side. The amount of the narrowing is equal to the total amount of cartilage removed.

Protruding Tip

This is corrected by excising the excessive length of the columellar portion of the lower lateral cartilages just posterior to the angle for indicated distance after the cartilage has been exposed by undermining at the level of the edge of the septal cartilage.

Cleft Tip

This is due to separation of the lower lateral cartilages from each other causing a dimple to form at the tip of the nose. Both cartilages are exposed after undermining in the usual fashion, and with a cartilage punch connective tissue is removed from the area separating the cartilages, which are then brought into apposition by a pair of mattress sutures—thus doing away with the dimple space.

III

A. Treatment of Receding Chin and Saddle-Nose

Although for many years the trend has been towards the use of autogenous or preserved cartilage implants rather than foreign substances, to correct such conditions as saddle-nose and receding chin, satisfactory results are obtained with the newer synthetics. The most satisfactory of these are methyl methacrylate—an acrylic resin, colorless, odorless, shatter-resistant, which can be sawed, drilled or machined like wood.

This material is light in weight; unaffected by water, salt solutions, acids, alkalies, or animal oils; and is inert in contact with metals. It has high tensile, flexural and compressive strength, and high impact resistance. The softening temperature is 140 to 240° F. In addition it is inert biologically and free from bacterial or fungus deterioration. This material is readily obtainable and is inexpensive. It has the advantages of being easily sterilizable by immersion in alcohol and of being susceptible of careful fashioning to the defect preoperatively, thus cutting actual operative time in cases of saddle-nose or receding chin to a very few minutes.

Healing takes place promptly with no evidence

of infection or foreign-body reaction, nor of displacement or absorption of the implants—this over a time interval of seven years, which is a better record than that obtained by the use of preserved cartilage implants. Encapsulation of the implant takes place in a few weeks, locking it firmly into position.

Common sites for implantation are the dorsum of the nose for correction of profile defects such as saddle-nose—of either traumatic, syphilitic, congenital or faulty submucous operative origin, and over the anterior part of the mandible in cases of receding chin.

The shaped implant of plastic is placed in the desired area of the nose through an intranasal intercartilaginous opening beneath the periosteum of the nasal dorsum. It is held in place for one week by adhesive tape externally applied, after which time it is firmly adherent to the nasal bones. For receding chins, the shaped implant is inserted into a pocket under the periosteum formed through an inframental incision, followed by undermining the subcutaneous tissue and muscle from the bone. In addition to bringing the implant to the desired shape, many holes, three millimeters in diameter, are drilled through its entire substance, allowing the growth of fibrous tissue through the implant to cause it to adhere in the position in which it is placed.

The acrylic implants have as yet shown no evidence of provoking a foreign-body reaction, and they maintain their size and shape. Acrylics cause less postoperative reaction than cartilage or cancellous bone grafts and become firmly adherent without suturing within seven to twenty-one days.

B. Correction of Protruding Ears

The Joseph technique of removal of an oval section of skin and cartilage from the retroauricular angle is the most generally accepted method today for the correction of prominent ears. The spring of the cartilage is destroyed by excision of an oval segment of cartilage in the long axis of the ear with removal of skin from the medial aspect of the ear and from the mastoid process, the skin margins then being approximated. The objection to this procedure is that it generally leaves an unesthetic wrinkling of the skin on the outer surface of the ear. Other frequently encountered sequelae are warping of the ear: overcorrection—too much flattening with little retroauricular angle.

The following technique overcomes the faults of the standard procedure.

Nerve block anesthesia with 2-per cent procaine is followed by infiltration along the line of incision anteriorly and posteriorly to separate the tissues and assist in the dissection. A two-inch incision is made on the medial aspect of the ear following and just slightly medial to the concavity formed

by the antihelix, the superior portion of the incision following either the anterior or posterior bifurcation of the antihelix, depending upon the particular case. The skin is then undermined and freed and the perichondrium exposed, and incised through the medial perichondrium and the cartilage along the same direction as the skin incision up to the lateral perichondrium. A thin longitudinal strip of cartilage is then excised by making a parallel incision two millimeters from the previous incision—with caution so as not to perforate the lateral skin. The skin is retracted upward and downward and the cartilage incision first made is extended in order to destroy any remaining spring of the cartilage. A size O white silk suture is passed through the medial perichondrium and cartilage at the upper third of the incision and another, if necessary, at the lower third. The sutures are tightened sufficiently to bring the auricle into the desired position and firmly tied. The slight excess of skin remaining is removed in an elliptical fashion at the site of the incision and skin closure is made with fine silk which is removed on the fifth postoperative day. Removable stainless steel sutures may be used instead of the buried silk—the wire edges projecting through the skin, fastened with a lead shot and removed in two weeks.

The advantages of this method are that surgery is reduced to a minimum—only slight skin and cartilage excision being necessary—and the result is superior to that accomplished by the older methods.

C. Use of Tattooing in Plastic Surgery

Tattoo pigments used are non-irritating, chemically pure, insoluble and light-stable.

Black is magnesium oxide

White is titanium oxide

Blue is cobaltous aluminate

Brown is ferric hydrate

Yellow is ferric oxide.

These pigments are sterilized by autoclaving and stored in flasks.

A mixture of various pigments is made by adding distilled water to form a paste of the color desired. The pigment is picked up on a tattoo needle which is inserted at a 45° angle into the cornea of the eye or into the skin overlying the birthmark, getting the pigment mixture in through many fine injections so as to match the color and appearance of the opposite eye or the normal skin, as the case may be.

The operation is done under local anesthesia, 2-per cent butyn sulfate in drops for the eye operation, and 1-per cent procaine with epinephrine for skin work. The tattoo needles may be used singly or in multiples, by hand or electro-mechanical means.

The value of tattooing is in concealing certain

especially conspicuous abnormalities, thus doing away with unsightly disfigurements which cause marked psychological disturbances in the affected person. Although tattooing the eye does not restore vision, it gives relief from unhappiness induced by exposure of the unsightly eye to the gaze of an unkind world. It may in addition improve vision in rare cases where the corneal scar or opacity covers the pupil causing dispersion of the light rays throughout the eyeball resulting in blurred images. Increased light may result after injecting the pigment due to absorption of these dispersing rays of light which would ordinarily cause reduced visual acuity. Tattooing is also of value in certain cases where corneal transplantation is inadvisable.

At any rate even though the eye may be permanently blind, tattooing will obviate the disfigurement.

Red birthmarks (port-wine stains, hemangioma) of the skin, especially on the face present great psychic problems to patients. Cosmetics may cover the area to a certain degree in women but are generally not satisfactory due to the trouble of application and smearing on clothes, etc., whereas men will generally not bother to use cosmetics. Older destructive methods by use of x-ray, radium, carbon-dioxide snow, skin grafting, etc., are not generally satisfactory. Tattooing will permanently and safely mask these marks and do away with the cosmetic problem—acting as a permanent make-up covering the defect.

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TREATMENT OF BURSITIS WITH INTRAVENOUS IRON CACODYLATE

(C. E. Bensema & A. N. Shoun, Tucson, in *Arizona Med.*, Mar.)

The diagnosis of bursitis is based on:

Pain, usually severe in the region of the joint, often more in the muscle than in the joint.

Radiation of the pain, often simulating that of neuritis.

The pain is extreme in acute cases with the slightest attempt at motion.

Bursal effusion may be tremendous, especially at the knee or elbow. In the case of a subdeltoid bursitis a mass may be palpable over the deltoid insertion and this is usually the point of maximum tenderness.

Roentgenograms may demonstrate calcium deposition in the involved bursa or tendons.

Usually a single bursa is involved, although not infrequently subdeltoid bursitis is bilateral.

If there is a suspicion of a joint pain being due to bursitis, institute treatment immediately for bursitis. Bursae are extremely numerous throughout the body. They are

formed whenever a need for them arises in response to chronic irritation of a sliding or rubbing motion.

Local application of radiant heat or diathermy may relieve. Iron cacodylate, 3% aqueous sol., five c.c. are administered slowly by injection, given daily until there is a favorable response, then c.o.d.

Symptoms for one to three days required average of 6.6 injections for complete recovery; 2.6 for relief; four to 50 days aver. 9.6 injections for recovery; 31 days to a year. 11.6 injections, and in this last group the percentage of complete recovery was only 63%.

This report is on 100 unselected cases of bursitis (acute, subacute and chronic) which were treated with IV iron cacodylate and in some instances with accompanying appropriate physical therapy. Two or more attacks in 13 patients—a total of 35 attacks; age range 19 to 84. Of these 100 cases, 80% were reported as recovered, 19% as improved, and 1% as a failure.

PROLONGED LABOR

(C. A. Durham, Houston, in *Texas Jl. of Med.*, Mar.)

Prolonged labor in 102 patients is reviewed. Cause most often uterine inertia; cause not determinable in 22; average duration 46 h.

No progressive lengthening of labor was associated with increased age; 70% were primigravidae. Contracted pelvis in 15.9%; preeclampsia in 22.2%.

Induction in 16.6% played a role in the etiology of some of the long labors. Valid indications should exist before active induction.

Pitocin was given in 30.3% of cases, but labor in these patients averaged the same as for the entire series. If this method of stimulation is to be used, it should be given early, adequately and IV.

Sedation should be restricted to rest periods, and only morphine or pantopon.

Early rupture of the membranes should be prevented so far as possible.

Operative deliveries 75%.

Saddle-block anesthesia given too early was responsible for prolongation in two of the cases.

Fetal mortality rate was 10.5%, maternal morbidity 23.6%, maternal death 0.9%.

ANTUITRIN-S IN PREMENSTRUAL TENSION

(J. H. Morton, *Amer. Jl. Obs. & Gynec.*, 60, 1950)

The symptoms of premenstrual tension in 29 patients yielded Antuitrin-S 500 to 1,000 units twice weekly for the last two weeks of the menstrual cycle, the last injection not later than three or four days before the expected menstrual period. Treatment of the edema by salt restriction and diuretics and of the hypoglycemia by high protein, low c.-h. diet with frequent feedings were helpful adjunct measures during the first two or three months. Small to moderate doses of thyroid extract were also employed, and in a few instances vitamin B complex therapy was beneficial.

URETHANE, AMINOPTERIN and STILBAMIDINE are cytotoxic to the hematopoietic system to a varying degree to granulocytic, erythroid, lymphoid, and megakaryocytic elements. Although many claim to get favorable response to these agents on the various lymphomata, our experience has been very discouraging.

Philip Pizzolato, New Orleans, in *N. O. Med. & Surg. Jl.*, Feb.

QUEEN ANNE of Great Britain and Ireland, who reigned from 1702 to 1714, bore seventeen children. Only one of them survived infancy, and he died at the age 11.

DEPARTMENTS

HUMAN BEHAVIOUR

REX BLANKINSHIP, M.D., *Editor*, Richmond, Va.

MENTAL HEALTH AND CIVIL DEFENSE

SINCE the civil defense program has gotten under way in varying degrees of effectiveness, determined largely by the strategic importance of the locality and the unity of the community leaders, an appraisal of health service is in order. Emphasis is properly given to physical casualties, hence defense mobilization involves warning and protection, supplies and first aid, and in general all phases of prevention and immediate care.

Evidently, a comprehensive plan of all medical service is paramount. Such a well developed plan will materially reduce the psychic casualties. Certainly, as long as danger is impending we will find anxiety in various degrees. The danger of mental problems arising and a serious threat to the lives of many is panic reaction. Simple anxiety reactions are not to be considered very seriously, for a rational degree of anxiety is a healthy safeguard against danger, particularly when it is generated in the mature individual to such an extent that it prompts him to intelligent responses.

A matter of more concern is the fear reaction in young and immature children. I refer to the "bomb" drills in public schools. Perhaps it is the choice of evil necessity, but somehow it seems unfair to subject children to an incomprehensible threat. If something has to be done—and certainly it should—let the usual "fire drills" continue. Such drills can be converted to meet the needs of security. Children know what fire is, and they can better cope with danger which in some degree they understand. Children have to face reality, just as adults do, but let them be spared as long as is possible.

From experience in other countries during World War II there was no marked increase in the incidence of mental disorders. It would seem that no particular emphasis should be placed on mental health other than to see that measures in this phase of health services are in proper proportion to those of other medical services.

In times of emergency acute anxiety and panic reaction and mass hysteria are the disturbances most likely to disrupt efficiency in dealing with a tragedy. Obviously good knowledge of the dangers—good instruction as to what to do—and intelligent leadership are the most effective weapons to combat the panic state. Right now the government is distributing very sound, intelligent and sensible

information, which in general will suffice to give the average person all the information and instruction necessary. Most physicians and nurses know what to do with the isolated case of anxiety. A large percentage can be adequately treated "on the spot," so to speak, with sedatives such as pentothal or amytal, and after a short time return to duty or be evacuated in an orderly manner.

In case of an "A Bomb" attack, the best informed people tell us that it will be massive; that is, many strategic areas will be bombed at one time. It seems obvious that rural areas and non-strategic centers of population have little to fear, for only by accident will such a bomb be "wasted."

It seems logical that in planning for civil defense all general hospitals should provide some space for the few patients who will develop grave psychiatric disturbances. Psychiatric "first aid" should be a part of the defense personnel armamentarium. Such personnel should learn a few of the major symptoms of psychological and psychotic disturbances, how to handle such individuals when and if they are encountered. Our greatest defense and safeguard against all casualties in the final analysis is a well-thought-out and organized defense program. All communities should organize some type of program and not await directions from the federal government.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., *Editor*, Beaufort, N. C.

PHYSICIAN PARTICIPATION IN SCHOOL HEALTH SERVICES

WITHOUT close coöperation with the family physician no school health program can be a success.

A questionnaire was sent by the Bureau of Health Education, American Medical Association, to the secretary of each of the organized medical societies in the 48 states, the District of Columbia, and the territories, which postulated: "While the private physician's place in all phases of school health services is important, it is in the follow-up, correction and adjustment of health needs that his role becomes most vital."

The purpose of the survey were: (1) to determine the extent of participation of private physicians in the school health programs; and (2) to suggest methods of physician participation where such practices do not already exist.

As a result of this study, the following recommendations were made:

1. That medical societies designate to a school health committee, or other appropriate committee of the society, the responsibility for counseling and advising with school and health department officials

on the medical aspects of the school health program.

2. That the family physician—through the local medical society—be brought into the school health program during its planning stages so that he may participate understandingly in execution of the program.

3. That a committee or council be formed in the school community which will give attention to school health problems.

4. That policies for communicable disease control, emergency care, screening tests, medical examinations, and follow-through and care of school children be worked out jointly by school personnel, practicing physicians, and health department staff.

5. That responsibilities of the school, the health department, and the medical society be broadly delineated on the basis of function, with the task of the school defined as *teaching*, that of the health department as *preventing diseases* and protecting community health, and that of the medical society as *advancing medical care*.

This article was abstracted because it advocates a wise policy and is timely in that the making of preschool examinations is a spring activity.

The examination of the preschool child is time-consuming and it is here that the health officer needs the family physician more than in any other phase of school health.

For the good of the child, and as a legitimate means of combatting socialized medicine, we bespeak the full coöperation of the family physician in the school health program.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

THE DIAGNOSIS AND TREATMENT OF ECTOPIC PREGNANCY

ECTOPIC pregnancy has never received the consideration so grave and fairly common a condition deserves. A review of this condition is always in order. A recent article by Fall¹ of Chicago is timely and instructive.

The signs and symptoms vary to a large extent with the site of implantation and correct diagnosis depends upon recognition of the various clinical pictures produced. In the interstitial portion of the tube it simulates intrauterine pregnancy. Rupture usually occurs later in this group and the pregnancy may be considered as normal until rupture, which may not occur until the fifth month. If the implantation is near the uterine cavity, it may rupture and abort with the symptoms of a spontaneous uterine abortion; if in the isthmus of the tube, rupture usually occurs before the eighth week, pro-

ducing sudden pain, severe hemorrhage, pallor and fainting, with signs of intraabdominal fluid and peritoneal irritation. Early, due to the peritoneal irritation, the patient may have a strong urge to go to stool or to urinate—the "bathroom sign."

The signs and symptoms produced by ampullary ectopic pregnancy depend upon the location and the mode of termination of the pregnancy. If rupture occurs, symptoms much like those of isthmic rupture ensue. Abortion out the fimbriated end of the tube gives a less striking picture. The episode may be preceded by milder cramps; the signs of shock are less marked, and a hematoma of increasing size may be felt in the pelvis.

In abdominal pregnancy usually there is a history of tubal abortion, and persistent pain and tenderness which is much increased with the appearance of fetal movements, and the nonpregnant uterus may be felt separate from the fetus. The soft parts are easily felt through the fornices or abdominal wall and x-ray examination may show a very abnormal position. Ovarian ectopic pregnancy is rare and is usually misdiagnosed as ovarian disease and discovered at laparotomy.

Uterine fibromyomas have a definite relationship to ectopic pregnancy because of the distortion of the pelvic organs, predisposition to infection and altered hormonal balance. Twin tubal ectopic pregnancy and combined intrauterine and tubal pregnancy are dangerous but rather rare conditions. The clinical picture is usually quite confusing.

The diagnosis of ectopic pregnancy should be made on a carefully taken history, thorough physical examination and accurate and repeated blood studies. When in doubt, a careful culposcopy to determine if there is blood in the cul-de-sac may be done and in the occasional case, culdoscopy examination is indicated. The successful treatment of ruptured ectopic pregnancy depends upon promptness. The diagnosis should be made as quickly as possible; an adequate supply of blood should be made available, and laparotomy should be immediately carried out, preferably under local anesthesia. The pathologic factors are removed and the operating time is made as short as is safely possible.

PANTHINE IN THE CONTROL OF DUODENAL ULCER

For those of us who treat ambulatory patients who are ulcer victims, Friedman² has made a helpful study. To 22 patients whose ulcer symptoms were acute, with sharp epigastric pain and an ulcer crater radiographically, Bantline was administered with relief, usually within 24 hours. The relief of pain seems the most striking clinical manifestation of the drug. Those whose symptoms were typical of chronic duodenal ulcer—epigastric distress, belching, nocturnal distress and pyrosis—had variable results. Some with long-standing distress

1. *General Practice Clinics*, Nov.

2. *General Practice Clinics*, Nov.

were greatly relieved but most were not benefited.

The remedial action of the drug appears to be by remarkable relief of spasm and inhibition of gastrointestinal motility. The effects on acid secretion were inconstant. The parasympathetic effect seemed equal to the benefit that ulcer patients derive from vagotomy. This is indeed interesting as possibly revealing a great instrument for giving these patients great relief and allowing them to keep at work at the same time.

MALE SEX HORMONE FOR INHIBITION OR SUPPRESSION OF LACTATION

WITH so many demands on the doctor these days, for something to suppress lactation, J. C. Parker's study³ should prove helpful. He reports 42 unselected cases in which testosterone, either in oral or injectable form, was used to inhibit or suppress lactation. Ten patients received three 6-mg. tablets three times daily for four days. The dosage by injection was 50 mg. daily for 2 days in 28 of the cases. Four cases required an additional 50 mg. IM to suppress lactation completely. There was suppression of lactation in all these cases without undesirable side effects in any case. There were no cases of infection of breast, and few with engorgement of any consequence. No additional measures were used to inhibit or suppress lactation.

The conclusion was that injectable testosterone, in 50-mg. doses, on two successive days, is a safe and effective means of inhibiting and suppressing lactation. Certainly, this is an improvement over methods heretofore used and it should prove of great value to many mothers.

3. *General Practice Clinics*, Nov.

MYOCARDIAL INFARCTIONS IN AMBULANT PATIENTS

THE INCIDENCE of painlessness has been reported as from 4 to 61 per cent of all myocardial infarctions. Fagin and Chapnick⁴ studied a gainfully employed group, using the ecg. as the diagnostic index. One hundred persons were studied and the diagnosis of infarction was made in seven who were entirely asymptomatic. Fifty-two patients gave histories of typical episodes, some of which had not been considered as infarction at the time, but gave ecg. evidence later. It was surprising to find that of 14 patients with typical histories of infarction occurring within two months prior to date of examination, seven had continued to work or had returned to work after one or two days' rest at home. Of the 52 patients, only 21 had angina for exertion and only one had angina while at rest. Only three were kept from work because of angina. Forty-one cases gave an atypical history. In this group were patients with symptoms of car-

4. *General Practice Clinics*, Nov., 1950.

diac insufficiency of varying degrees of severity, but with no history of an acute attack of chest pain to warrant recognition as a "heart attack." Angina pectoris and dyspnea on exertion were the most usual complaints. Three patients had congestive heart failure of sufficient severity to keep them from work. The others were holding down their jobs with varying regularity, depending on the severity of their complaints.

The ability to work of patients who have had a myocardial infarct is of great economic importance. These observations corroborate the opinions of others that an attack of myocardial infarction only rarely permanently disables. This study brings out the importance of close study of a large group of borderline patients who are being overlooked. It is encouraging that so many who have definite infarctions can overcome them to a large degree while continuing to be self-supporting. The man in general practice should not let these people go without study and diagnosis until it is too late to prevent serious consequences.

CLINICAL EVALUATION OF AUREOMYCIN, CHLORAMPHENICOL AND TERRAMYCIN

FROM observation made by Knight⁵ on 1000 patients at the New York Hospital, it was found that aureomycin has been increasingly well tolerated, so that only 5 per cent taking this agent orally have had nausea, vomiting or diarrhea.

Clinical studies with terramycin have shown this agent to be highly effective in pneumococcal and unclassified bacterial pneumonias, brucellosis, amebiasis and anthrax, and in many urinary-tract infections. Erysipelas and streptococcal pharyngitis were rapidly responsive to the agent. There were a few cases of nausea, vomiting and diarrhea. No serious toxic signs were noted.

Chloromycetin is equally as valuable a therapeutic agent.

Indications for therapy with aureomycin, chloramphenicol and terramycin in a variety of infections are described in detail and in an interesting and instructive manner.

5. *General Practice Clinics*, Nov., 1950.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

THE CARIES-PRODUCING EFFECT OF SIMILAR FOODS GROWN IN DIFFERENT SOIL AREAS

A FAR HIGHER INCIDENCE of dental caries has been produced in hamsters fed diets containing corn and dried whole milk produced in New England, in comparison to those fed similar foods grown in northwest Texas. This study¹ was under-

taken as a confirmation of these results, and to determine whether the caries-producing factor was in the corn or the milk, or in both.

Four groups, each containing 35 weanling hamsters, were assembled so that each group had equal distribution in terms of weight, sex and littermates. They were fed a diet consisting of corn (ground to 40 mesh fine) 63 per cent, dried whole-milk powder 30 per cent, alfalfa 6 per cent and sodium chloride 1 per cent. Distilled water was given *ad libitum*. The diets varied with respect to the source of the corn and milk as follows:

Group A: New England corn and New England milk

Group B: Texas corn and Texas milk

Group C: New England corn and Texas milk

Group D: Texas corn and New England milk.

The animals were housed individually in metal cages with wooden floors and were fed their respective diets *ad libitum* for a period of 17 weeks. Weekly weight records showed that all four groups grew well and at the same rate during this period.

At the end of the test period the hamsters were killed and the heads fixed in a 10 per cent solution of formalin and then dried and skinned; finally, the maxillas and mandibles were treated with a 3 per cent solution of hydrogen peroxide. The heads were boxed and marked by a code unknown to the dental examiner.

Results of the dental caries examination of Groups A and B. The 43.1 per cent decrease of carious molars and 50.9 per cent decrease in carious surfaces in hamsters fed on Texas-grown foods over those fed on New England-grown foods compared very closely to the initial findings. This duplication of results gives strong support to the idea that the cariogenic effect of these foods is related to the area where they were produced.

It may be suggested that these results are due to differences in fluorine in the milk from Texas and New England—219 and 0.3 parts per million; and of the corns—0.4 and 0.3, respectively.

Diets A and B were analyzed for 13 nutrients, and only the riboflavin was found to be significantly different; it was 30 per cent higher in Diet A.

The dental-caries scores of Groups C (New England corn and Texas milk) and D (Texas corn and New England milk) showed no significant difference in the caries index. This indicates that neither the Texas corn alone nor the Texas milk alone inhibited the dental caries.

It appears from these results that the caries-promoting property of the New England foods outweighed any caries-inhibitory property of the Texas corn and milk, and that a mechanism operated in the New England foods that aided materially in

production of dental decay. Investigations to determine whether this factor is organic or inorganic are contemplated.

HISTORIC MEDICINE

THE HUNTERIAN HERITAGE

JOHN HUNTER was born 222 years ago and died in October of 1793, on the same day that Marie Antoinette was guillotined in Paris.

He was the tenth child of a small Lanarkshire laird who was 68 when John was born—an interesting fact for the geneticists. His father died when John was 13 years old.

John "would do nothing but what he liked, and neither liked to be taught reading and writing, nor any kind of learning." He himself remarked in later life that, "when a boy, I wanted to know all about the clouds and grasses and why the leaves changed colour in the autumn; I watched the ants, bees, birds, tadpoles, and caddisworms; I pestered people with questions about what nobody knew or cared about."

In 1755, he was sent to Oxford; he spent only one term there. Verbal felicity and a command of language were not among Hunter's attributes. Though inherent in a few, they are characteristics best developed by the system of teaching at our older universities.

When he was 20 (1748) he rode up to London on the invitation of his brother William, at that time established as a physician and teacher of anatomy. For eight years he lived with his brother in Covent Garden and worked steadily at anatomy. As dissection in those times was possible only in the winter months, he had much time to spare. He attended some hospital teaching in 1749 and 1750 at Chelsea Hospital, working under Cheselden. In 1753 he was elected Master of Anatomy at Surgeons' Hall. In 1755 he returned to London, attending St. George's Hospital and was appointed house-surgeon in 1756. He held this appointment for five months.

In 1760 he was appointed as a staff surgeon to the Army and saw service towards the end of the Seven Years War. In 1762 he was transferred to Lord Loudon's force in Portugal, being posted as surgeon to a hospital. Of his two chiefs in the hospital he said, "They were as unfit for their jobs as the Devil to reign in heaven." While in Portugal his only written reference to scientific observations appeared in his paper, "An Account of the Hearing Organ of Fishes," which was not read till 1782.

Hunter returned to London in May, 1763, went on half-pay and set up as a practising surgeon in Golden Square. In 1764 he bought two acres of

1. A. E. Nizel & R. S. Harris, Boston, in *New England Jl. of Med.*, March 8th.

1. Sir Max Page, in *British Med. Jl.*, March 10th.

land at Earl's Court and built a cottage and stables on it; here he gradually established an extensive menagerie and experimental farm.

Hunter's life for the next 20 years continued in London. If we are to believe Ottley (1835), who quotes the faithful Clift, his daily routine was to start work at 5 or 6 a. m. After dinner, at 4 p. m., he took an hour's sleep; then worked till 1 or 2 a. m., and slept for only some four hours.

The amount of work Hunter got through was prodigious. At his death he had collected and made or dictated notes on 8,000 specimens. He anatomized at least 500 species of animals, exclusive of repeated dissections of different individuals of the same species, besides the dissection of plants. He was progressively more sought after as a surgeon, and yet had time after 1785 to organize his museum in Leicester Square and, in some degree, control his employees, whom Clift estimated never to number less than 50.

A letter to Edward Jenner, January 10th, 1776, directed Jenner to "send everything you can get, either animal or vegetable, or mineral and the compound of the two."

On January 22d, a brain fungus, mentioned in the letter of the 10th, is again referred to:

".... if it is brain let it drop off; if it is fungus let it either drop or waste off. Be quiet and think yourself well off that the boy is not dead. You do not mention a word about bats. Have you got the bones yet of a large porpoise? Is ever the salmon spawn seen after she has parted with it? If it is, I wish you could get some: I want to examine the spawn of fish in the progress of the formation of the young one."

In 1775 he began systematic lectures on surgery at St. George's. The course consisted of 86 lectures, which were read. His major work, "Treatise on the Blood, Inflammation and Gunshot Wounds," was not published till after his death.

Hunter's brother-in-law, Everard Home, first a pupil and later his trusted assistant, said of Hunter: "In the practice of surgery he always investigated with uncommon attention the causes of want of success;" and, "He was always solicitous for some improvement in medical education."

He set up a private printing press in 1786. From this time he produced and sold his books direct to the public. The purchase of the lease of the Leicester Square property in 1783 was the first step in an ambitious building programme.

In 1927 Lord Moynihan paid this tribute: "There has probably never been a man in one profession with so wide an intellectual interest, so profound a knowledge of so many varied subjects wholly derived from direct personal inquiry and observation."

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

SELF-EXPRESSION AND SELF-DISCIPLINE

THE TROUBLE with our educational system, within the home and within the heterogeneous group of the school and institution, says a teacher of pediatrics,¹ is our indecision between authority and liberty. Educational psychology has been debased in the eyes of the public to political slogans of freedom versus oppression, individualism versus regimentation, progressive education versus

rod. This paragraph arrests the attention of any thoughtful person concerned with the gravity of the problem of juvenile crime, and the evidently poor educational results being obtained.

The article goes on:

The broad principles of modern pedagogy have had the effect of creating dangerous over-simplifications in the mass mind of well-meaning, half-educated parents and teachers. Even the less than half-educated contemporary, of average health and sanity, who finds himself in the role of a parent will, as a rule, refuse to be guided by the new wisdom of modern educational doctrines. It will be rather the innate wisdom of the ages, the source of which is, in the main, the love instinct as well as the instinct for preservation of order and for consideration of the rights of the other members of the home and community.

The child tries to communicate his ideas and feelings to others. To respond to this with "just fine" is hypocritical. Guidance, a combination of matter-of-fact criticism and matter-of-fact praise, is much superior, even at an early age, to mere encouragement.

Hobbies, games, and sport have to be considered in the right proportion with the scholastic curriculum.

Mere manual and technical skill can be acquired by short-term vocational training. But knowledge of the English language, American and world history and geography, mathematics, physics, chemistry and biology require long and painful work studies in the school and at home.

The result of the now prevalent system is an abundance of half-educated salesmen, and a dearth of common and skilled labor, on the one hand, and of qualified professional specialists and competent leaders, on the other.

Should we give in to the disfigurement of a beloved child's features by the technic of plucking, tinting, painting, caking, and color polishing? Or should we try to instill personal pride in her natural make-up, for better or for worse, and teach

proper health habits as a beauty aid that goes more than skin deep?

Guidance gives the immature and inexperienced mind the benefit of knowledge accumulated during the lifetime of the guide, as well as the benefit of certain timeless guiding principles. If each individual would have to find out by himself through trial-and-error and gradual social adjustment that it may be a good idea to obey the Ten Commandments, this certainly would be a waste of time and—worse than that—a waste of life, liberty, and pursuit of happiness.

A supposedly gifted child that is left to self-expression with pencil and paint and piano, with visual "encouragement" tossed in, will flounder for a long time in the stages of primitivism.

The acquisition of technical skill is a hard and exacting process in any real art and for any real artist. There are few who venture far enough in determined guidance and enforcement of practicing to see a child come to enthusiasm and gratefulness for the parental perseverance.

The more we realize that doing yourself, performing, progressing, and acquiring knowledge and means for development into a useful and happy individual is the main goal of education, the less the child will be liable to drift into the emptiness of mere spectatorism, which is not much more than glorified idleness, whether it be at picture shows, athletic shows, or video; and too much idleness during leisure hours breeds vice, gambling, drinking, and sexuality out of boredom. Activity, planning, and ambition for leisure time leads to development of all the best potentialities of the individual; and achievement of success in the pursuits of one's own free choice is the source of true happiness.

Just as idleness and mischief are closely related to a low and indiscriminate sort of sexuality, striving and the achievement of personal quality generate the higher aims of the relation between the sexes.

The dualism between good and bad is to a certain extent inherent in the human mind. In the extreme case, we see the sorry life of a gifted child with a completely split personality: the Sunday saint and week-day brute, the family supporter anonymous who turns alcoholic; the talented actress who changes lovers and husbands.

There is one sure way to prevent frustration: it is substituting *attainment* for *entertainment*. It takes determination, enthusiasm, and civic, artistic and religious idealism to get the child started on the road to a life worth living.

SATURNISM.—This term for chronic lead poisoning gets its name from the planet Saturn. It goes back to the days when the ancients knew of only eight elements and they

believed that the eight great heavenly bodies were each composed of one of these: the Sun of gold, the Moon of silver, Jupiter of copper, Mars of iron, Venus of tin, Mercury of quicksilver, Saturn of lead and Vulcan of sulphur.

—Harry Wain, Mansfield, in *Ohio Med. J.*, Feb.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

THE ROLE OF EMOTIONS IN HUMAN BEHAVIOR

FOR all time up to three or four hundred years ago, it was believed that human beings whose minds showed derangement had become victimized by a witch, the devil or other evil powers. It must be realized that a person is healthy in mind only when his emotions are healthy—that is, the mentally-healthy man must reach a state of emotional maturity and emotional security. A healthy mind makes a good adjustment to life. The course of world history has far too often been shaped by the obsessive behavior of dominant leaders such as Ivan the Terrible, Machiavelli, Napoleon Bonaparte, Kaiser Wilhelm, Mussolini, Hitler and others; and leaders in the World Health Organization are confident that a more nearly ideal condition will not be possible of attainment until individuals are free from neurotic urges to prestige, power, segregation, independence and aggression.

The problems of mental health are numerous and baffling; but if the nation is to strive successfully toward victory through health, then we must strive toward attainment of the following goals: (1) Personal happiness and contentment. (2) Emotional maturity and realization that each has a place in life and that the performance of his job is necessary to both his own and the community's proper functioning. (3) Constancy of purpose. (4) Emotional control in which decisions are made according to intelligent reasoning and not according to desires, feelings and moods. (5) A sense of adequacy and self-reliance. (6) Recreational skills. From infancy to adulthood, one's emotional behavior is determined by the home, the school, the church and other agencies to supply him with a proper balance between security, independence and guidance. In spite of the therapies discovered within recent years, the incidence of mental diseases and emotional disorders is increasing. Among the great lacks which are evident are:

Lack of information on the part of the general public regarding the causes of mental illness; lack of psychiatrists and psychiatric social workers, nurses and attendants; lack of funds for research; lack of properly-equipped, properly-manned state hospitals for the mentally ill; lack of adequate legislative provisions for meeting the problems of the

psychiatrically ill criminal, and juvenile delinquents; lack of child-guidance clinics and after-care clinics for discharged mental patients; lack of psychiatric care and treatment on wards of general hospitals; and lack of organization of the public for carrying out concerted campaigns in the interests of mental health.

Because today more cures and remissions are resulting among the mentally ill than ever before, and, because the period of hospitalization is being shortened through use of treatments, psychiatry is being recognized and valued as never before. Psychiatry now seeks to prevent as well as cure mental disorders.

Causes of mental disease include heredity, age, trauma, intoxications, glandular disorders, occupation, strenuous living, constitutional inferiority.

It is believed that emotional factors account more commonly than any others for disorders of the mind, that no more than 20 per cent of the cases of mental disease develop because something is anatomically wrong with the brain. The remaining 80 per cent result because of emotional conflicts developed, perhaps on a basis of functional incompetence. In the program of prevention, we are faced with the fact that people are not versed in the principles of psychology, do not know how to protect their mental health, or how to avoid future mental disorders in themselves and their offspring. More people should be taught the signs of emotional disorder which oftentimes show themselves in advance of the breaking point.

If, as is now believed, the future mental health pattern of the adult is often determined by the emotional experiences of childhood, how then should parents proceed toward safeguarding the future mental health and happiness of their children? In striving to meet this unprecedented problem, it should be noted that at the present time, the church, the school and the home are not the only formative influences in the social order serving to weave the warp and woof of the life pattern. Our young people are growing up in an atmosphere determined by the radio, the motion picture, television, atom-splitting and pernicious, specious if not utterly false "advertising," which leaves a mighty impress upon their minds. The challenge to those responsible for the care of youth—parents, family doctor, school and church—is truly one without parallel.

THREE METHODS OF TREATMENT OF SCHIZOPHRENIA OF EQUAL VALUE

(J. S. Gottlieb & P. E. Huston, Iowa City, in *Jl. Nervous & Mental Disease*, Mar.)

Three methods of treating schizophrenia are compared: brief psychotherapy, insulin coma and electric shock. The results do not show superiority for any one of the three methods as to final status over a one- to four-year follow-up period.

Patients who had an acute onset had a significantly better recovery rate than those with a gradual onset. Patients who had been sick six months or less had a significantly better recovery rate than those who had been ill seven months or more before treatment. The catatonic, paranoid and unclassified groups had a high recovery rate compared to the simple and hebephrenic groups.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

HOSPITAL COMPETITION

HOSPITAL COMPETITION is first, professional, and second, financial. Professional competition by the hospital for the most part deals with physicians, nurses and hospital administrators. If one hospital in a community has a superintendent of nurses with a college education and a degree in addition to her R.N., it affects the thinking of the trustees of other hospitals. Often too much emphasis is placed on a college degree. If one hospital's business administrator has a degree in that field, this is considered by other hospitals. Degreed R.N.'s and degreed H.A.'s are few, but they are selling themselves and their supposed ability to hospital trustees. Competition in their field is nil, so there is much room for inefficiency. There was a time when *efficiency coupled with the art of a trade or profession* was the Ph.D. of all degrees.

Hospital trustees could profit by studying ethics as practiced by the business administrator and by the nurses and doctors. The administration of any institution that is guilty of violating hospitals ethics and principles which are nothing but honesty put into practice, should be condemned. A paper on this subject at every annual hospital meeting would be of help. The writer has never heard a paper on this phase of hospitalization. Any good hospital administrator will impress upon all of his employees that fair competition is welcomed as a challenge for better hospital service. However, all should be warned that talking about the doctors and the nurses of the competitors is only inviting criticism upon themselves and their institution.

Hospitals bid for the patronage of the leading physicians, but all too often the leading physicians having the largest practice allow themselves to get in a rut in regard to hospital records, and this then requires special attention. Many hospitals, in order to overcome this, provide interns, historians and residents to do the work for these busy doctors. Then there is the grave possibility that the busy doctor leaves too much to the hospital employee, and the young hospital doctor realizes that actually he is spending more time with the patient than the attending physician, with the attending physician drawing the fee. This thinking deserves considerable thought, and our best judgment may

not be quite good enough to solve it. If the hospitals would compete not for the patronage of the doctor who sends the most patients in, but for that of the doctor who studies his patients most, they would meet competition in a quite desirable manner. All too often boards of trustees regard a physician's worth to the hospital in a mercenary manner. Bidding for the doctor who will push the most patients into the hospital, at times unnecessarily, is meeting competition at the expense of the patient and this should not be condoned.

In many localities, hospitals are operated by groups of physicians, and physicians are the world's worst, unless the ministers can beat them, at showing impatience, intolerance and downright abuse toward their competitors. Medical societies have arranged programs with everything from A to Z included—except medical ethics. It would not be amiss for organized medicine to appoint a committee to revise medical ethics. It would do a great deal of good for every state medical society to have on its program yearly a paper dealing with the various phases of medical competition and the ethical manner in which to meet it. I dare say that ten years of this regimen would cement the profession together more than any other one thing that could be done. Until that time we shall have to depend upon the convictions of those of us who are willing to be criticized for crying from the housetop a need for such a program.

Competition in general is good for professional as well as trade groups, but competition ignorantly, intolerantly and selfishly met is as malignant to the institution and its employees as a grade-4 cancer is to a young person.

There is today a great trend to centralization of power in every field of endeavor. The people have been taught to believe that large hospitals sell better service for less money than do smaller ones. If the large hospitals close all of the small hospitals, individual hospital service to the community will dwindle. Competition, properly met, is a tonic to any institution or individual. What is more important, it is a stimulus to render better service. Do not be misled into believing that fine marble halls, tile operating rooms and bath rooms, and a lot of signs on many doors, constitutes good hospital service. The humaneness of the personnel operating that institution is the final word in good and satisfying hospital service.

Each hospital in a community is prone to set a room fee as representing hospital cost to the patient. In trying to meet competition or better it, they sometimes hold their room rents down and make up the difference in drug expense, operating room fees and laboratory fees. An intelligent patient will soon detect this scheming on the part of the hospital unless the insurance company is tak-

ing care of the bill. Hospital insurance companies are cognizant of this fact and before very long, I am sure, this matter will be brought to the attention of hospital administrators. No two hospitals can be operated at the identical cost per patient day, but there should not be much difference in the total cost of caring for a patient for a given number of days in one hospital over such cost in another. If hospital authorities are considerate of the patients, they will remember when hospitalization is needed a second time, and they will recommend such hospitals. Financial competition is of value in preventing waste. Competition stimulates better service to the patient without increase in cost. Few patients are asking for lower rates, but rather more for their money, and this can be rendered. Hospital administrators cannot make a success of an institution by cutting room rent or other special fees below those of competitors; but they can do this by making the patient's dollar go as far as they make their own dollar go. With a fixed determination, let us attempt to meet hospital competition fairly, squarely and honestly.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

SUBLINGUAL METHYLTESTOSTERONE'S GREAT AND VARIED USEFULNESS

A REPORT¹ from a great university on results from the sublingual administration of a rather new drug is so startling as to demand abstraction.

Weight gain can be produced with relatively small doses of methyltestosterone given intraorally and the weight is in protein tissue and not in fat or edema. The intake of fat, protein, and carbohydrate must be adequate.

We have produced satisfactory weight gain with sublingual methyltestosterone in: (1) debilitating diseases which are not otherwise specifically ameliorated by this treatment, and (2) those conditions specifically improved by androgens.

Diseases in which the non-specific "protein-building" effects of methyltestosterone have been utilized in this clinic are: rheumatoid arthritis, bronchiectasis, disseminated lupus erythematosus and pulmonary tuberculosis.

The dose for females was 5 to 10 mg. per day, for males, 10 to 40 mg. In women we use the smallest dose which will produce weight gain, without masculinization or excessive libido.

The weight gain was 11 to 22 pounds, usually retained after the gradual reduction in dosage and final withdrawal.

Specific improvement, as well as weight gain and other anabolic effects, has been provided by s. m. in:

Inoperable Cancer of the Breast: In 60 per cent of cases relief of pain, improvement in morale and an increase in weight, strength and appetite occur; 20 per cent show arrest of regression of osseous or soft tissue metastases. Partial to complete relief of symptoms may last for two years or more.

Undesirable edema, amenorrhea in younger patients, masculinization, hypercalcemia and spontaneous fracture occur, but are minor as compared with relief of pain, prolongation of life and possible regression of tumors and healing of ulcers. Dosage 40 mg. per day.

Osteoporosis: The primary disturbance is in the metabolism of protein, not that of calcium. (Not to be confused with osteomalacia in which bone fails to mineralize or with osteitis fibrosa gen. in which there is excessive bone destruction.)

Osteoporosis, most common in postmenopausal women, also occurs in atrophy, acromegaly, malnutrition.

Weight gain, relief of pain and invalidism, and of hypercalciuria has resulted from 10 to 20 mg. daily of s. m. Similar effects have been noted in Paget's disease.

Cushing Syndrome: Rapidly developing and painful adiposity of the face, neck and trunk, osteoporosis, impotence in males and hirsutism with amenorrhea in females, plethoric complexion with purplish striae, hypertension, polycythemia, weakness and glycosuria were originally ascribed to basophilic adenoma of the pituitary. Identical findings may result from adrenal tumors, lesions in the hypothalamus or thymus and from unknown causes.

Ten to 40 mg. of m. s. has caused great improvement.

Simmons' Disease (Hypophyseal Cachexia): The cardinal features are marked loss of weight, amenorrhea and sterility in the female, loss of potency and usually sterility in the male, very low b. m. r. and asthenia.

Therapy with anterior pituitary extracts, thyroid extract, and adrenal cortical hormones has been disappointing. 5 to 20 mg. s. l. daily usually produces weight gain, return of sexual function, elevation of b. m. r. Weakness and fatigue are so improved that gainful employment is usually possible.

From a group of sexually retarded boys were selected for androgen treatment only those whose bone age was less than chronologic age. In this group s. m. proved a safe, inexpensive, and effective improver of stature and general well-being. The initial dose was 10 to 20 mg. daily, maintenance 5 to 10 mg.—adjusted to avoid excessive erections.

J. G. S. Gordon, M.D., University of California Out-Patient Department, in *Clinical Symposia*, March.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

DIGITALIS FOR CHRONIC CONSTIPATION AND ALLIED CONDITIONS

THE EFFECT of digitalis on the motility of the small and large intestine, and so in the treatment of intestinal stasis, was impressed on Epstein¹ in an odd way.

A veterinary surgeon was given digitalis for cardiac failure with hypertension. Some weeks later this patient stated that he had been passing much flatus, and remarked that veterinarians administered digitalis, as much as an ounce of the tincture, per rectum, to horses having the common and often fatal "wind-colic."

In the preliminary trials on patients 4 c.c. of the tincture, diluted with 60 c.c. of water, was instilled into the bowel. While this dosage was purely arbitrary, the results were highly satisfactory; but the tincture was discarded in favor of the fluid extract to obviate any question of the action of the alcohol in the tincture.

The amount of digitalis needed in intestinal therapy is small, and incidental action on the heart is highly improbable. It is the specific effect of the individual dose that counts, as it has been found repeatedly that normal movements of the bowel follow one or two treatments with digitalis, spaced days apart. The prolonged or continuous effect so necessary in heart disease is not required in intestinal therapy. Not an instance of digitalis poisoning was encountered in all the cases treated over the many years.

The cases treated represent various forms of intestinal stasis. Causes most common were asthenic habitus, redundancy of the colon, hypothyroidism, sedentary habits, dietary inadequacies, visceroptosis, colitis—idiopathic or induced by the habitual use of Cathartics, enemas and colonic irrigations. Digitalis may be employed to advantage in all without regard to their etiology. The results are usually better in the atonic than in the spastic type. Six to 12 treatments usually produce the desired motility of the bowels; two or three may suffice.

Ordinarily a bowel movement results within 24 hours after the first treatment. But in the spastic cases the use of a glycerine suppository after the first, second, and rarely, the third treatment is permitted, in order to initiate the evacuation.

The steps in the treatment are as follows:

One-half c.c. of the U. S. P. fluid extract of digitalis is diluted in two ounces of warm water. With the patient lying on the left side and the knees

¹ A. E. Epstein, New York City, in *Jl. Mt. Sinai Hospital*, Mar.-Apr.

drawn up, a No. 12 F, soft oiled catheter is inserted into the rectum for eight inches. By means of a bulb syringe the fluid is slowly instilled and the catheter withdrawn.

The treatments are spaced at two- to four-day, occasionally longer, intervals. Three treatments in the first week, the second week, two; thereafter, one or two, until daily movements occur spontaneously. Direct the patient to try to retain for an hour at least, and that a movement may be expected within 24 hours. It must be made plain, too, that the object of this therapy is the restoration of a normal peristalsis of the bowel, and nothing else.

Occasionally certain of these patients return many months or even several years later, complaining of some retardation of bowel motility. The difficulty is overcome after two or three instillations. Certain others, because of fear that the original constipation might return, come back regularly once or twice a year to receive a treatment.

DRUG HAZARDS IN CARDIOVASCULAR DISEASES

IN THE PAST YEAR hazards in the use of drugs in cardiovascular diseases have arisen, mainly from the use of digitoxin, mercurial diuretics, quinidine and dicumarol. Digitalis intoxication has become common, most frequently with the use of digitoxin. Any digitalis preparation requires individual prescribing. Digitoxin poisoning is manifested most often by signs of conduction disturbances.¹

Routine injections of mercurial diuretics in the treatment of congestive heart failure is not advised. It is a dangerous procedure in elderly cardiacs. Acute urinary retention, acute dehydration, salt depletion, and uremia may result. Salt should be given freely to cardiacs being treated with mercurial diuretics.

Quinidine is strongly advised in 1) fresh auricular fibrillation or flutter with a normal roentgen shadow, normal heart sounds and normal blood pressure; 2) ventricular tachycardia; and 3) post-thyroidectomy flutter or fibrillation. It is generally useful in 1) older flutter and fibrillation; 2) ventricular premature beats; 3) paroxysmal or nodal tachycardia which fails to respond to other measures; and 4) auricular fibrillation occurring during myocardial infarction.

Quinidine is strongly contraindicated in 1) complete heart block; 2) bundle branch block or intraventricular conduction defect; 3) subacute bacterial endocarditis; and 4) over-digitalization. It is generally rejected in 1) congestive heart failure; 2) auricular fibrillation which has replaced angina pectoris; 3) hyperthyroidism with sinus tachycardia; 4) markedly enlarged heart; and 5) severe mitral stenosis.

John E. Flanagan, M.D., Chicago, in *Clinical Medicine*,

Dicumarol administration should not be a routine in the treatment of congestive heart failure or acute myocardial infarction. Whether or not the laboratory control of prothrombin time determination is perfect, or a single dose only be given, or long-term therapy used, the danger of hemorrhage is always present.

In the treatment of angina pectoris khellin causes uncomfortable side effects, such as anorexia, nausea, and dizziness in a majority of such patients.

CERTAIN FUNGUS INFECTIONS OF THE SKIN

(F. R. Bettley, in *British Med. Jl.*, Jan. 6th, 1951)

Tinea pedis occurs in two very different forms; the vesicular nearly always starts in the centre of the sole as a group of pin-head vesicles soon becoming superficial pustules, which dry up and in 10 days shed thick brown $\frac{1}{4}$ -in. scales and by this time fresh vesicles are often forming near by; process may continue for some weeks, and appear on the sides of the feet and toes and even on the dorsum.

The old-fashioned Whitfield's ointment, liberally applied twice daily and the foot enclosed in a thin cotton sock, is still as good as anything. Several elegant preparations are now on the market, most of them very effective, but most of them are more liable to cause contact sensitivity and a dermatitis which may be far worse than the original disease. Three or four weeks' treatment is usually sufficient. Recurrences are all too frequent. Socks should be sterilized in the autoclave or by soaking for 12 hours in 3% cresol before they are washed, continued for a week or so after the skin has returned to normal. Bedroom slippers in which bare feet are placed should be either thrown away or packed with formalin swabs and enclosed in an airtight box for three days.

Tinea cruris eruption appears as a bright-red, itchy disk on the inner aspect of the thigh two or three inches below the crutch; sometimes there are a few tiny vesicles at the margin. As the patch enlarges it extends to the inguinal region, thigh, perineum, or scrotum. Intertrigo always starts exactly in the groin fold, the margins follicular; tinea of the thigh is never follicular. A scale from the margin of the patch examined microscopically, the fungus is easy to find.

It too responds well to Whitfield's ointment, rubbed in b.i.d. for a fortnight or three weeks. Recurrences are probably most often due to a reservoir of infection on the feet or nails. Underwear should be boiled during the period of treatment.

KHELLIN EFFECTIVE AND SAFE IN ANGINA PECTORIS

(H. L. Osher et al., Boston, in *New England Jl. of Med.*, Mar. 1st)

Khellin is a pure crystalline derivative of the eastern Mediterranean plant *Ammi visnaga*. The present investigation was undertaken to assess the effectiveness of khellin therapy in angina pectoris by carefully controlled subjective and objective methods, including the use of placebos, exercise tolerance tests and ecg. studies.

Twenty-six of 32 patients were found to be benefited by khellin therapy; improvement was classified as marked in 11, moderate in 11 and slight in 4. The average dose was 160 mg. daily; no serious toxic reactions were encountered.

The high proportion of favorable results, together with the striking degree of improvement frequently observed, has led us to the conclusion that khellin, properly used, is a safe and effective drug for the treatment of angina pectoris.

PRESIDENT'S PAGE

THE statement is often made that there are too many medical organizations. Whether this is a firm conviction or just an easy way to turn down an invitation to become a member is uncertain. Certainly there is a multiplicity of associations and societies.

The answer is not one of numbers but of functions. To the Medical Body Politic, the County and State society, and the American Medical Association are essential from an organization standpoint, though they serve many other important functions. The specialty groups have their associations which no doubt have done much to standardize and stabilize their places in the profession. But all this does not alter the fact that the highest function of any medical association is to disseminate medical knowledge and to make better doctors.

The man who prepares a subject for presentation to a medical group is always benefited. The audience is not always so fortunate. Searching the literature, seeking the results of research and communicating with the authorities on the subject does much more to clarify the facts and to properly evaluate them than simply to be on the receiving end.

Crawford W. Long of Georgia undoubtedly performed the first surgical operation under ether anesthesia, but whether from lack of opportunity or mere indolence, he did not pass his experience and knowledge on to the medical profession, and so the honor never came to him until it was useless and empty.

As important and useful as the close association of the members of any group may be, the profession in the large is made up of every licensed doctor whatever his interest may be. So this leads up to the fact that there is still room for a medical association whose function is to bring all groups together where their problems may be solved and their overlapping experiences shared. Such an organization is Tri-State.

Let us all appreciate the value of such an organization and invite others to share and add to the golden heritage that has been passed down to us by those noble medical men of generations agone from Virginia, North Carolina and South Carolina, whose achievements will ever brighten the pages of medical history.

—W. R. WALLACE

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

"THERE SHINED ROUND ABOUT HIM A LIGHT . . .
AND HE HEARD A VOICE"

FIFTEEN years ago *Southern Medicine & Surgery* was proffered for publication the *MS* of an article entitled, "Is Nephritis a Medical or a Urological Problem?" On reading it, the profferer was told that this journal would publish it, but that the editor would make adverse criticism.

Following is the pith of the article, which was published in our issue for January, 1936:

It has long been a question whether or not so-called medical nephritis falls within the realm of the internist or the urologist. Before scientific urology made a place for itself among the medical specialties, many of the diseases of the kidney were considered medical. The American Urological Association, a few years ago, designated Montague Boyd and others to set a standard nomenclature of renal disease. Volhard and Fahr's classification—nephroses, nephritides, and arteriosclerotic renal disease. Hess finds most acceptable. "I do not like to separate renal disease into medical and surgical. A patient either has renal pathology or he does not. I do not see how diagnosis and treatment of the urinary tract can be scientifically accomplished without the use of the cystoscope. True, we will always need the help and co-operation of the internist as well as the other specialists, but in the last analysis the diagnosis and treatment of any renal disease is essentially urological."

"The urologist is best equipped to make the differential diagnosis in these cases and to qualify the diagnosis. The treatment of the case may best be managed by him or he may be associated with one or more men from other branches of medicine."

"There is no renal pathological entity that should not be under the supervision of the urologist rather than the internist."

Somewhat the editorial comment did not get in till the next issue, when, under the caption, "What's a Plain Doctor of Medicine For?", it was remarked:

This question must come into the mind of every individual at some time and, as time goes on, it seems to press more and more for answer.

Learned and dignified Faculties accept certain young men and women as promising, and, after many years of arduous application, the few survivors are certified to be Doctors of Medicine, worthy to be recommended to the general public as capable physicians and surgeons; but, strangely contradictory, a good many of the members of those Faculties immediately join in with others who have limited their practice to a special field in saying, in effect. You are capable physicians and surgeons in every field but mine.

Up to a few weeks ago we had blandly assumed that one disease condition had been properly assigned—and that there was no dissent to this assignment. Now it seems that even that is controversial.

We do not believe that there was ever a time when Dr. Hugh Young would have said that a patient with Bright's disease would be better off under his care than under the care of Dr. Barker or Dr. Thayer.

If the family doctor is not the one to be in supreme command in the management of what are commonly called the medical diseases of the kidneys, then he should undertake no more in his profession than to act as a traffic director, advising which specialist should be consulted, until that early day when all patients would choose their own specialist, and the species *plain doctor* perish from the earth.

One day last fall, this title over an article in the *Journal of A. M. A.* arrested my eye: "The General Practitioner as Urologist." I read it. Here is the gist of it:

It is our thesis that every general practitioner of medicine is, or should be, a urologist of sorts. The conditions of which we wish to speak are, in the main, simple. They should all be recognized by the general practitioner, and most of them may be remedied by him.

We find two large groups of patients in our practice: those whose illnesses might well have been satisfactorily diagnosed and cured by their family physicians; and those who have, to their detriment, been subjected to prolonged and repeated courses of all the products of modern pharmacy and chemistry—the persons who needed a urologist from the beginning. It is the discrimination between these two groups that is the major province of the general practitioner.

In cases of frequency and urgency of urination, no pus in the urine, diminution in the caliber of the urethra, an endoscopic examination will show edema and chronic proliferative change, and gentle but generous dilation and applications of silver nitrate in appropriate strength will usually bring satisfactory results.

Mild prolapse of the urethral mucosa usually painless and of no special consequence is to be differentiated from carcinoma. Clean and wide excision of tissue for microscopic study is a simple and rewarding procedure.

Urethral rupture in these days of accidents is encountered frequently. Few major procedures are so easily handled early, yet are so disastrous when encountered late.

Enuresis is said to be of organic origin in no more than 15 per cent of the cases seen by this urologist, so it is to be presumed that no more

than 5 per cent of all such cases need go to the urologist.

The best general practitioner is not he who refers the most work; the best is the man who studies his cases well, makes the diagnosis and treats in the vast majority of cases. When in doubt or when response to treatment is inadequate he looks to the specialist for help.

Anything remarkable about all this? Of course not, till I tell you more. The author of the 1936 article, and the author of the 1950 article are one and the same man, Dr. Elmer Hess, who, I am informed by the secretary of the A. M. A., "is a member of the Council on Medical Service of the American Medical Association and is Chairman of the Committee on Extension of Hospital and Other Facilities of the Council."

Mirabile dictu!

Not only the medical diseases of the kidney, but a number of surgical diseases, assigned to the G. P.! What a conversion! "Not only my feet . . . but my hands and my face also."

One may wonder whence came the light that shined round about Urologist-Chairman Hess, and whence the voice.

WHAT GENERAL PRACTICE IS

THE ESSENCE of general practice is to live amongst your patients as a cog in the whole machine, knowing them so well in health and in sickness, and from birth until death, that although one may keep—and should keep—a clinical record of their illnesses, and although one should examine the patient as a routine, the patient is so familiar to his family doctor that he, *of all people, can be in the best position to give an accurate diagnosis, prognosis and treatment most suitable to the patient's way of life.*

So proclaims a member of the Royal Society of Medicine,¹ and he goes on in like vein.

Whereas the patient in hospital is like an animal in the Zoo, living under conditions which are artificially made—as near normal as possible of course, but nevertheless out of his natural environment—the general practitioner is in the position of the big-game hunter studying the patient in his natural environment, the jungle, his lair, in the wild herd, in his home.

There is a great deal more to a case in hospital than you can find out by examining that case in hospital. The essential causes and tendencies of health or disease in an individual are in his heredity and his environment: his parents, his family, his home, his work, his tastes and recreations. And we shall not get the picture of these most important factors by merely asking the patient about

¹ G. O. Barber, M. D., in *Proc. Royal Soc. of Med. (London)*, Feb.

them; we shall obtain only his very limited impression of them. General practice involves knowing all these things, and applying them to the case in point. The individual will react to stress in an individual way. General practice means such a knowledge of one's patient that one can assess the type of stress to which he is likely to be subjected, and the way in which he is most likely to react or break down.

The general practitioner should regard the specialist departments as helps to *his* treatment of the patient, rather than as places to which he sends his patient and then be relieved of all further responsibility.

A third aspect of general practice is the responsibility for a patient, even sometimes against his will; a responsibility both for him and his family, in health and in sickness, from birth until death. In general practice a visit to a patient does not involve just that patient's symptoms. It involves acute anxiety on the part of the family; if you like, a temporary mental illness, an anxiety state, of all concerned. It is part of general practice to relieve this also in such a way that there may be no lasting effect. One has to handle birth and death, in which the principal player is usually the least concerned.

In chronic cases it is often said that nothing can be done. But general practice consists in doing something to make life as bearable as possible for the patient, and to make him live as comfortably as he can with his disability.

Many people seem to think that the bulk of general practice consists of trivialities. There is no case, however trivial, which is completely without interest. Careful attention to hundreds of apparently trivial cases is more than rewarded as one catches the earliest possible stage of serious illness. Much becomes almost a reflex action in time, so that one has a tentative diagnosis sometimes, arrived at between the time that the patient opens the door, and when he sits down in the chair.

Dr. J. D. Simpson, in the discussion:

A young man, aged 22, with an excellent athletic, Service, and scholastic record, reported sick on a Monday saying: "Doctor, I have a strained heart. At the end of the course we rowed on Saturday I felt awful." He was the only son of devoted parents. His heart and lungs were normal, b. p. 120 80; exercise tolerance test good. Saturday he had been to a 12-1 lecture, had lunch in college and the boat was out at 1:45 p. m. He had had a long wait at the start of a 20-minute row and it was a bitterly cold day.

My advice was to go straight down to the river, have a light outing and then return to the VIII next day. He has rowed and been fit ever since.

A cardiological opinion would have taken two to

three days to arrange, and by the time the boy had been examined he would have been well on the way to a cardiac neurosis and would have missed his place in the VIII—a very important matter to him.

I hope every general practitioner into whose hands this journal comes will take this editorial to the editor of his local paper, and request publication in part and editorial comment. You might well, also, call attention to the other editorial in this issue on the general practitioner; and take along to your paper your copy of *S. M. & S.* for December, 1950, and call attention to the editorial on pages 408 and 409.

It is wonderful to have a great British specialist who does practically all his work in office or hospital say that "the family doctor can be, of all people, in best position to give an accurate diagnosis, prognosis and treatment;" and compare treatment in hospital with treatment in home, much to the advantage of the latter.

NANCE IS MECKLENBURG'S DOCTOR OF THE YEAR

In the selection of Dr. Charles L. Nance as our general practitioner of the year, the Mecklenburg County Medical Society keeps up its record for discriminating judgment in the making of choice for this honor.

Difficult, or even impossible, would it be to bring forward a doctor who renders better service to his multitude of patients: in finding out what is wrong and applying appropriate therapy in the 95 per cent, and in wisely referring the 5 per cent, mostly because of disease already diagnosed as requiring major surgery.

An editorial in this issue deals with the significant, and in some ways amusing, tumbling over each other of the specialists in their eagerness to reverse themselves as to the general practitioner. Thus do they rush to the rescue of the victors. But for the fact that "our very noble and approved good masters" found that their course was leading rapidly to the destruction of medicine as we know it, by the simple sequence of the superstructure toppling once the foundation were thoroughly undermined, the general practitioners would still be accorded slight courtesy by organized medicine, always assigned a low seat, never told "brother go up higher."

It is a pleasure to realize that, among the many goods coming out of this tardy and grudging recognition of the general practitioner as the most important of all doctors of medicine, the one who does most in the promotion of health and happiness and the saving of life, is the wider acclaim of such doctors as Charles L. Nance.

NOTES FROM A SCRAP BOOK

December 3d, 1949: Dr. Ivey has fully recovered vision of his eye from the retinal hemorrhage. Corbett Howard broke the head of his radius. Both lovely gentlemen—life long friends of mine and of each other.

July 31st, 1950: Blood pressure 210-110, cerebration inhibited, gait—senile and jerking. Patient—a lovely friend, Dr. H. B. Ivey. Prognosis—not long to go.

October 13th: Up to Chapel Hill on annual consort with Dr. Ivey. Steak supper, a night's sleep among the pines, and a philosophical understanding with this noble gentleman.

December 13th: My dear friend, Dr. Ivey, had a stroke. Seems to be transient, but deterioration is on the march.

February 2d, 1951: Dr. Ivey's second cerebral accident. Now speechless and incontinent. When aroused by the voices of his friends, feebly opens his eyes in recognition. Truly the most beloved character of his generation in Wayne County. An acquaintance from childhood, a friend for 20 years, a fellow traveler to medical meetings, football games, wedding anniversaries, barbecues, funerals. Confidant, confessor—one of the very few men that was ever within the inner circle of my heart.

February 6th: Goodbye, friend!

DR. IVEY'S BEDROOM

Silent as eternity! At a distance—a brother-in-law, a son-in-law. Nearer, a sister seated, on whose shoulder rests the hand of her son. Kneeling in silent prayer, holding a smooth experienced hand, two women. Standing, four physicians, eyes moist, lips twitching, watching the breath of life shorten, pause, vanish. Perfect peace! No fear, as the Great Physician received the spirit of the gentlest soul of our time.

Remarked a doctor, "There never will be another one."

Afterthought: "The greatest use of life is to spend it for something that outlasts it." (Wm. James).

—G. C. Dale, Goldsboro, N. C.

HOW HAPPY FOR QUEEN VICTORIA'S GRAND OLD MAN THAT HE CAN NOT KNOW THE STATE OF HIS COUNTRY'S

DOCTORS TODAY

(From an Editorial in the *Journal of the Oklahoma Medical Association*, April)

In an address at Guy's Hospital in 1890, Prime Minister William E. Gladstone said of doctors of medicine: "Another point upon which I congratulate the profession is its independence. It does not rely on endowment, but on its own exertions directed to meeting human wants. There is no great profession which has so little to say to the public purse, and which so moderately and modestly dips its hand into that purse. It is not only in the interest of the public, but of the profession itself, that it is eminently self-supporting; and, rely upon it, that the principle of self-support does much to maintain its honour and independence, and

to enable it to pursue its stately march in the times that have come and in the times that are coming, to form its own convictions, to act upon its own principles without fear or favour, for the general benefit of mankind."

EVEN KARL MARX, THE DADDY OF COMMUNISM, PRAISED THE PROFESSION HIS PUPILS HAVE ABOUT DESTROYED

"For thousands of years medicine has united the aims and aspirations of the best and noblest of mankind. To deprecate its treasures is to discount all human endeavour and achievement as naught."

DANIEL DRAKE (1785-1852) was born near Plainfield, New Jersey. Although almost illiterate at the age of 15, he became a scholar of world renown. Teacher, founder of universities, writer, scientist, and indefatigable crusader, he labored side by side with the founders of cities, building medical institutions while they built streets and factories, he trained physicians and surgeons for the scattered population of the frontier. Every citizen of the Mississippi Valley who has been sick and has called in a doctor owes a debt of gratitude to Daniel Drake.

Sir William Osler made a vow never to visit Cincinnati until a monument was erected to Daniel Drake.

—Editorial, *Cincinnati Journal of Medicine*, March.

VIRGINIA DOCTOR "STANDING BY" AT NINETY

Dr. R. S. Griffith, of Waynesboro, retired from active practice several years ago, but retains his status as a licensed physician—in case he should be called upon in an emergency. He was licensed to practice medicine upon graduation from the College of Physicians and Surgeons, Baltimore, in 1886.

The good doctor has no wisdom—bottled or unbottled—to pass out as to how to get to be ninety. "Always was hearty" he offers as to his own length of years. He gets up at 4:30 a. m. and spends four hours in his garden when gardening time rolls around each year.

COUNTRYSIDE TO SUPPLY GENIUSES

(E. O. Lewis, in *Proc. Royal Soc. of Med.* (London), Feb.)

Amongst the rural children there is more scatter of the scores; the incidence of mental deficiency and backwardness is higher in rural areas, as also is the proportion of brilliant children. Urbanization tends to produce standardized intellectual mediocrities; and in the future we shall have to look to the countryside for our geniuses.

In the country districts family bonds are strong, and the people know one another intimately, and usually are keenly interested in local affairs. Neighbourliness is a lost art in our large towns. People live 30 years in the same house without taking the slightest interest in the lives and problems of their nearest neighbours.

HERPES ZOSTER TREATED WITH CHLOROMYCETIN

(B. D. St. John, in *New York State Jl. of Med.*, 50, 1950)

Four cases of herpes zoster were greatly helped, if not aborted, by the use of chloromycetin in an initial, large loading dose of 50 mg. per kg. body weight during the first 24 hours.

A 51-year-old man of 200 pounds, received 32 Kapsels (each 250 mg.) in the first 48 h. This was reduced in 72 h. to 2 Kapsels q. 12 h., until a total of 12 gm. was given. Within 26 h. after the onset of therapy, there was complete relief of pain. No new vesicles formed, it took six weeks for the crusts to disappear.

In a doubtful case bind the chest; if abdominal pain and stiffness disappear, it is reflex from the chest.—R. Cabot.

NEWS

GILL MEMORIAL EYE, EAR AND THROAT HOSPITAL, Roanoke, Virginia, held its twenty-fourth annual Spring Congress in Ophthalmology, Otology, Rhinology, Laryngology, Facial-Maxillary Surgery, Bronchoscopy and Esophagoscopy, April 2nd to 7th.

The faculty included a score and more distinguished specialists in these fields from Tennessee, Maryland, New York, Michigan, Illinois, Minnesota, Pennsylvania and Canada; in addition to Dr. Elbyrne G. Gill, of Roanoke, and a half-dozen of his local conferees.

Specialists to the number of nearly 400 came from nearly every State in the Union, and from Canada, to take this six-day course which has made such a name for itself over a quarter-century.

The Fourth Annual GREENSBORO (N. C.) ACADEMY OF MEDICINE SYMPOSIUM was held at Jefferson Country Club, March 22d. Officers of the Academy: Dr. Wayne J. Benton, President; Dr. E. Prefontaine, President-elect; Dr. H. F. Starr, Symposium Chairman; Dr. O. N. Smith, Program; Dr. H. W. Sparrow, Arrangements and Entertainment; Dr. A. Freedman, Public Relations.

Morning Session: Dr. W. Reece, Berryhill, presiding.

"Hand Injuries," by Dr. Hans May, Assistant Professor of Surgery, Graduate School of Medicine, University of Pennsylvania.

"Office Proctology," by Dr. Robert V. Terrell, Assistant Professor of Proctology, Medical College of Virginia.

Afternoon Session: Dr. Wingate M. Johnson, Presiding.

"Office Gynecology," by Dr. Conrad G. Collins, Professor of Gynecology, Tulane School of Medicine.

"The Problem of Alcoholism," by Dr. Paul H. Stevenson, National Institute of Mental Health, Bethesda, Md.

"The New Diabetic," by Dr. Garfield G. Duncan, Clinical Professor of Medicine, Jefferson Medical College.

Dinner: Dr. Wayne J. Benton, President, Greensboro Academy of Medicine, Toastmaster.

"The Health Conscious Public Asks Three Hard Questions," by Dr. W. T. Sanger, President, Medical College of Virginia, Richmond.

DUKE UNIVERSITY

A month's course in Medical Mycology, under the direction of Dr. Norman F. Conant, is to be offered at Duke University School of Medicine and Duke Hospital, Durham, N. C., July 2-28, 1951. The course will be offered every day in the week, except Sunday, and has been designed to insure a working knowledge of the human pathogenic fungi within the time allotted.

The number of applicants for the course will be limited and the applications will be considered in the order in which they are received. An attempt will be made, however, to select students on the basis of their previous training and their stated need for this type of work.

A fee of \$50.00 will be charged for this course, upon the completion of which a suitable certificate will be awarded. Inquiries are to be directed to Dr. Norman F. Conant, Duke University School of Medicine, Durham, N. C.

DEPARTMENT OF MEDICINE, UNIVERSITY OF VIRGINIA Charlottesville

Dr. E. D. Vere Nicoll, Chief Assistant to the Orthopedic and Fracture Departments, St. Bartholomew's Hospital, University of London, has been appointed Instructor in Orthopedics, effective March 1st.

Dr. Desmond R. H. Gourley has been appointed Assist-

ant Professor of Pharmacology, effective Sept. 1st. During the past two years he has been with the Pharmacology Department in research on the phosphate metabolism of red blood cells using radioactive phosphorus. Dr. Gourley received his Ph.D. in 1949 from the University of Toronto, where he served as a demonstrator in cellular physiology.

* * *

Dr. Lucius D. Hill, III, Resident on Thoracic Surgery, University of Virginia Hospital, was awarded the John Horsley Memorial Prize at the annual meeting of the Sigma Xi Society, Charlottesville, March 6th, for his thesis on "Acute Renal Insufficiency and the Role of Potassium with Treatment by Intestinal Lavage." Dr. Hill was graduated from the University of Virginia Department of Medicine in 1944.

* * *

Dr. Robert D. Wright, Professor of Social and Environmental Medicine, has been awarded a fellowship by the World Health Organization to study Social Medicine and Human Ecology in Europe. The three-month study period began April 9th, when Dr. Wright sailed for Stockholm to observe the medical care program. From Sweden Dr. Wright will go to Geneva for conferences with World Health Organization officials and to Paris, where he will represent the United States at the annual meeting of the International Union Against Venereal Disease. In Britain Dr. Wright will study with Dr. Leslie Banks, Professor of Human Ecology, Cambridge University, and Dr. F. H. E. Crewe, Professor of Social Medicine, University of Edinburgh.

* * *

Dr. Henry B. Mulholland, Professor of Internal Medicine, will attend the meeting of the World Health Organization, Geneva, May 7th-25th.

* * *

The University has assigned dormitories accommodating 120 students to the Department of Medicine. These dormitories are located on the East Range, immediately adjacent to the Medical School and the University Hospital. Most of the rooms are in buildings erected under the supervision of Mr. Thomas Jefferson and are equipped with fireplaces. A lounge has been provided for recreation and meetings of student societies.

* * *

Alumni speakers at the annual meeting of the University of Virginia Medical Alumni Association, Charlottesville, June 8th, will be Dr. John S. Lawrence, Professor of Internal Medicine, University of California, at Los Angeles, and Rear Admiral H. Lamont Pugh, Surgeon General of the United States Navy. Dr. Lawrence will address the meeting's morning session on "Physiology of White Blood Cells," and Admiral Pugh will speak at the Annual Medical Alumni Dinner.

NINETY-SIX-YEAR-OLD DOCTOR WINS RIDING CONTEST (*J. Missouri Med. Assn.*, April)

Last September 4th, during the Annual Linn County Hoof and Horn Club Rodeo, an old folks' riding contest was staged. The Sept. 5th issue of *The Brookfield Daily News* said: "The crowd was liberal with applause when Dr. W. B. Lucas, 96-year-old Mendon physician, climbed aboard his horse and put on so accomplished a riding performance as to carry off the prize. Dr. Lucas drove his car to Brookfield to attend the rodeo." Dr. Lucas continues his practice of medicine at Mendon.

Hand Talking Chart

The difficulties which aphasic patients experience in communicating their wants to others were realized by Dr. Hamilton Cameron when he was recovering from a cerebral accident in 1943. During his convalescence Dr. Cam-

eron devised a system of "hand talking" which he found helpful and which can be taught to the majority of aphasic individuals. Copies of the "Hand Talking Chart" and a discussion of its use may be obtained without cost by addressing Dr. Cameron at 601 W. 110th St., New York 25, N. Y.

THE CARTERET COUNTY MEDICAL SOCIETY held its regular meeting on March 12th at the Morehead City Hospital. This was a dinner meeting, the hospital acting as host.

Dr. S. W. Hatcher discussed the significance of certain serological tests in the case of pregnancy. Dr. B. F. Royal, delegate from the society, made an interesting report on the State Defense Meeting held in Greensboro early in March.

Dr. N. Thomas Ennett, Local Health Officer, read a paper entitled, "Draw the Line Between Preventive and Therapeutic Medicine." Among other things he pointed out that "public health and private practice are interdependent; the private practitioner and the health officer are making common cause against common enemies, disease and death; the private practitioner guards the individual against disease and death, and the health officer so guards the public." He expressed the opinion that "the private practitioner is always ready to support any reasonable public health program" that "socialized medicine would lower the standard of medical practice, and so is not in the interest of the public."

The local Professional and Business Woman's Club has requested that the society organize a cancer clinic. The society appointed a committee to fully investigate the matter.

Dr. Frank E. Hyde, prominent physician of Beaufort, was unanimously named our "Doctor of the Year."

N. Thos. Ennett, M. D., Cor. Sec.

DUKE UNIVERSITY MEDICAL SCHOOL

Dr. Norman F. Conant, Professor of Mycology, is spending two months in Europe speaking on Mycology, the Science of Fungi, at the invitation of Dr. Arvid Lindau, Professor of Bacteriology, at the Bakteriologiska Institutionen, Lund, Sweden.

A leading specialist in his field, Dr. Conant is director and founder of the Duke Fungus Registry, one of the world centers of diagnosis and study of fungus disease. He will speak at university medical centers at Lund, Stockholm, Upsala and Gothenburg, Sweden; and at Copenhagen, Denmark. On April 27th, at Lund, he will complete, by special invitation, the doctoral examination for Ake Norden, a Swedish Rockefeller Fellow who has just completed 18 months' training at Duke toward his M.D. degree.

Dr. Philip Handler Professor of Biochemistry and Nutrition, Duke School of Medicine, is one of 12 medical educators who will go to Japan in May.

The team of scientists, each a specialist in a different medical field, will try to bring teaching methods in Japan in accord with those of the United States. Medical schools there now are said to be much like those in Germany after World War I.

Schools represented besides Duke are: Harvard, Yale, Stanford, Michigan, California, Emory, Washington University in St. Louis (Detroit) and the Medical College of Georgia.

DIED

Dr. Edward Gill Face, Jr., 34, of Richmond, died March 6th after a long period of invalidism as the result of an automobile accident. A native of Norfolk, after graduation

from the University of Virginia in 1941, he interned at the New York Post-graduate Hospital, before entering the Army in which he served with the rank of captain. He was a member of the Medical Society of Virginia.

Dr. Franklin Carver Ledbetter, 61, after several years of declining health and serious illness, died at his home at Greenville, S. C., on March 3d. He was a graduate in letters of Wofford and received his medical degree from the Atlanta School of Medicine in 1914. Except for two years spent at Williamston, he had practiced in Greenville since 1917.

Dr. David A. Bigger, 59, died unexpectedly at his home in Rock Hill, S. C. on February 20th. He was a native of York County, a son of the late Dr. I. A. Bigger, received his higher general education at Davidson College and the University of North Carolina and was graduated from Jefferson Medical College of Philadelphia in 1917. He served as medical officer with the 20th Engineers during World War I and began the practice of medicine in Rock Hill in 1919.

Dr. Bigger was an accomplished and well loved physician, and an authority on local and state history.

Merck & Co. announce a reduction in the price of Cortone (Cortisone Merck), effective April 2nd.

The new suggested price to hospitals is \$24.00 per gram and to physicians \$30.00 per gram. This is the seventh price reduction since the introduction of Cortone two years ago at a price of \$200.00 per gram to clinical investigators.

Dromoran Hydrobromide "Roche"

A new, highly potent synthetic analgesic, Dromoran Hydrobromide "Roche," has properties similar to those of morphine, meperidine and methadon. On subcutaneous administration, Dromoran is more potent and longer-acting than morphine; its margin of safety is higher than that of methadon, about equal to that of morphine; it depresses respiration to the same degree as morphine but less than methadon. Recommended dose 2.5 to 5 mg. ($\frac{1}{2}$ to 1 c.c.) Available dose in 1-c.c. ampuls, 5 mg. each, and in 10-c.c. vials, 5 mg. per c.c.

ART 13, LIBEL AND SLANDER. N. C. MANUAL OF LAW AND FORMS (1938), 4230. SLAVERY INNOCENT WOMEN. If any person shall attempt, in a wanton and malicious manner, to destroy the reputation of an innocent woman by words, written or spoken, which amount to a charge of inconsistency, every person so offending shall be guilty of a misdemeanor.

Sandy: "Hae ye a match, mon?"

Jock: "Aye" (producing the match), "but I haena a cigar."

Sandy: "I' that case" (taking the match), "ye'll no be needin' the match."



BOOKS

THE NEUROSES—Diagnosis and Management of Functional Disorders and Minor Psychoses, by WALTER C. ALVAREZ, M.D., Professor of Medicine, Emeritus, Mayo Foundation, University of Minnesota; Emeritus Consultant in Medicine, the Mayo Clinic. 667 pages. *W. B. Saunders Company*, Philadelphia and London. 1951. \$10.00.

Few doctors will disagree with the author's statement that when a physician has had long experience in a place to which 140,000 sick persons come each year, he ought to publish the "hundreds of little secrets of diagnosis and treatment" which he has learned. In his own felicitous way Dr. Alvarez writes under such chapter heads as:

Need for Remembering That the Brain Has Some Diseases All Its Own

Classifications and Definitions

Hints for Recognizing in a Moment the Neurotic Patient, or the One Whose Troubles are Likely to be Functional

Hints for the Taking of a History

Hints for Determining the Causes of Pain

Disregarding Findings That Have Nothing to do With the Case

Nervous Syndromes Due to Psychologic Rather Than Psychic Storms

A Poor Nervous Heredity as Cause of Many Neuroses

Marriage as a Cause of Neuroses

Little Strokes

The Mildly Psychotic or Almost Psychotic

Hysteria

The Headaches.

Then come a series of chapters on the neuroses and psychoses of the diseases of the various systems.

Under treatment there are chapters on:

The Tactful Handling of the Nervous Patient

The Art of Convincing a Patient That His Troubles are of Nervous Origin

What the Patient Can Do to Help Himself

Help a Non-psychiatrist Can Give a Patient.

Of course, a lot of patients who are treated by a distant consultant do not get on as well after their return to their own doctor as the consultant thinks they do. Notwithstanding this fact, it is undoubtedly true that Alvarez has had really astonishing success in diagnosing and treating nervous patients, and his unusual ability to impart his knowledge makes this a book that every doctor of medicine should purchase, and study daily.

A TEXT-BOOK OF X-RAY DIAGNOSIS, by British Authors in four volumes—Second Edition. Edited by S. COCHRANE SHANKS, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and PETER KERLEY, M.D., F.R.C.P., F.F.R., D.M.

R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. Volume II. 702 pages with 605 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1951. \$15.00.

There is no ready way to review such a book as this. The reviewer can only testify to the comprehensiveness and the completeness of the dealing with the subject, the excellence of the text and the illustrations.

PERSPECTIVES IN HUMAN MALNUTRITION: A Contribution to the Biology of Disease from a Clinical and Pathological Study of Chronic Malnutrition and Pellagra in the African, by JOSEPH GILLMAN, D.Sc., M.B., B.Ch., Departments of Physiology and Anatomy, Medical School, University of the Witwatersrand; Joint Nutrition Unit of the Council of Scientific and Industrial Research and the University of the Witwatersrand, Johannesburg, South Africa. *Grune and Stratton, Inc.*, 381 Fourth Ave., New York 16, N. Y. 1951. \$18.00.

This book is a setting forth of the experiences of the authors with malnutrition in the Johannesburg African (native), gleaned mainly from the clinic. Consideration is paid in detail to diverse manifestation of malnutrition and new data presented on the reactions of the various organs and tissues in malnourished Africans. Departure is made from the general practice of describing the signs and symptoms in terms of specific dietary deficiency. The authors consider that the interpretation of the cause of nutritional disease has been oversimplified, and that the supposed reversal of associated signs and symptoms by the administration of food factors "alleged" to be lacking in the diet have obscured an appreciation of the effects of widespread chronic malnutrition on the biology of a people. The authors believe that they have provided ample evidence that among a population poorly nourished for one or two generations the adults already harbor such extensive lesions in many organs that the chances of cure are remote.

DIABETES MELLITUS—Principles and Treatment, by GARFIELD G. DUNCAN, M.D., Clinical Professor of Medicine, Jefferson Medical College; Director of Medical Division, Pennsylvania Hospital and the Benjamin Franklin Clinic, Philadelphia. 289 pages with 31 figures and 40 tables. *W. B. Saunders Company*, Philadelphia and London. 1951. \$5.75.

The author has undertaken to assemble and correlate principles in the understanding of, and in the treatment for, diabetes mellitus; and to deal with this disease and its complications in such a manner that physicians and students may have in a volume of reasonable size the practicable and simplified outline of treatment. A cursory examination of the book leads to the conclusion that the author has succeeded in his endeavors.

THE USE OF PEDICLE FLAPS OF SKIN IN PLASTIC SURGERY OF THE HEAD AND NECK, by GORDON B. NEW, M.D., F.A.C.S., Professor of Plastic Surgery; and JOHN B. ERICK, M.D., F.A.C.S., Associate Professor

of Plastic Surgery, both of the Graduate School, University of Minnesota and Section on Laryngology, Oral and Plastic Surgery, Mayo Clinic. *Charles C. Thomas*, 301-327 E Lawrence Ave., Springfield, Ill. 1950. \$3.00.

This book was conceived and executed to teach the difficult art of the use of pedicle flaps of skin in plastic surgery of the head and neck. It is said that when a flap is prepared properly and transplanted by sliding, advancement, rotation or migration, there should be no difficulty about its surviving, provided kinking or torsion of the pedicle is not allowed to produce venous congestion in the flap. Illustrations show beautifully the details of the technic recommended, and the results obtained.

SURGICAL FORUM—Proceedings of the Forum Sessions; Thirty-sixth Clinical Congress of the American College of Surgeons, Boston, Mass.—October, 1950. Surgical Forum Committee, Owen H. Wangensteen, M.D., F.A.C.S., Minneapolis, Chairman; Warren H. Cole, M.D., F.A.C.S., Chicago; Robert E. Gross, M.D., F.A.C.S., Boston; Michael L. Mason, M.D., F.A.C.S., Chicago; Carl A. Moyer, M.D., F.A.C.S., Dallas; I. S. Ravdin, M.D., F.A.C.S., Philadelphia. 665 pp., figs. 260; 6 tables. *W. B. Saunders Company*, Philadelphia and London. 1951. \$10.00.

That great surgeon, Evarts A. Graham, says the American College of Surgeons takes pride in this volume which represents the first publication, as a whole, of the papers presented at a Surgical Forum. He gives credit to another great surgeon, Owen H. Wangensteen, for the success and popularity of the Forum. The contributors number more than a hundred and twenty-five of the foremost surgeons of the United States, with a considerable sprinkling of surgeons of countries other than ours.

Surgical principles are amply covered, and the latest in anesthesia and in surgery of every system and organ. Since it suits the discriminating and requiring Graham, nothing more need be said of its entirely excellent character.

WILLIAM SHIPPEN, JR.: Pioneer in American Medical Education. A Biographical Essay by BETSY COPPING CCRNER, with notes, and the Original Text of Shippens' Student Diary, London, 1759-1760; together with a translation of his Edinburgh Dissertation, 1761. *American Philosophical Society*, Independence Square, Philadelphia. 1951. \$2.75.

After excellent preparation in his native Philadelphia, William Shippen went to London at the age of 22. There he studied under William and John Hunter, and was much influenced by the preacher Whitefield and the actor Garrick. From London he went to Edinburgh and won his M.D. degree after a year of study. Soon after his return to Philadelphia and entering on the practice of medicine, he organized a class of instruction in medicine and soon thereafter, along with John Morgan and Benjamin Rush, founded the first medical school in the English colonies.

In the spring of 1777, Congress appointed Shippen Director-General of the Medical Department

of the Army. Later, owing largely to Rush's malevolent influence, Shippen was court-martialed, and, although exonerated, he was discharged from his administrative post. A few months later, the same Congress, having reorganized the Medical Department, reappointed Shippen Director-General. He held this position now for three months only, then resigned to return to the more congenial duties of practice and teaching.

Of Shippen's life after the Revolution the book does not enlighten us.

Some will be interested to learn that his wife was Alice Lee, sister to Richard Henry, Francis Lightfoot and Arthur Lee; and that a first cousin of Shippen's married Colonel William Byrd of Westover.

ETERNAL EVE: The History of Gynaecology and Obstetrics. by HARVEY GRAHAM. *Doubleday and Company, Inc.*, 575 Madison Ave., New York 22, N. Y. Publication date June 7, 1951. \$10.00.

Harvey Graham is the pen name of a British surgeon of note. This book begins with the gynecology and obstetrics as it has come down to us in legends from prehistoric times, and comes on through the practices in Greece, Rome, Byzantium, the Middle Ages, the Renaissance, all along to the present. Soranus, Galen, Paré, the Chamberlens, Harvey, William Hunter, Charles White of Manchester, Jesse Bennet, Oliver Wendell Holmes, Semmelweis, Pasteur, McDowell, Mettauer, Sims, C. W. Long, Röntgen, and a great many others who have contributed greatly to the development of these subjects are given their needs of credit and praise. Lesser accomplishments by others, many of them little known to fame, are included. The concluding chapter deals with the various forms of anesthesia, blood grouping, radiological pelvimetry and Papanicolaou's method.

The whole is a reliable history of gynecology and obstetrics, set forth in such excellent English as to make delightful reading.

CANCER AS I SEE IT, by HENRY W. AGELMANN, M.D. *Philosophical Library*, 15 East 40th St., New York 16, N. Y. 1951. \$2.75.

As is suggested by the title, this is a very individualistic presentation of opinion as to the causation of cancer. The author leans strongly to the opinion that cancer is of "germ-virus" nature.

A pillar of the church was the elderly dowager who was endeavoring to introduce the new deacon to her somewhat deaf and rabidly anti-Roosevelt, anti-Truman husband.

"Mortimer," she bellowed, "this is the new deacon."

"New dealer?" he barked.

"No. Mortimer, he's not a New Dealer . . . new deacon . . . he's a son of a Bishop."

"Harrumph," grunted Mortimer, "every darn one of 'em is."

MEMBERSHIP
TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

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Cowell, L. A. (Hon.)	Box 416, Lincolnton	Highsmith, W. C.	Highsmith Hospital, Fayetteville
Crump, C. L.	30 Wall St., Asheville	Hipp, E. R.	412 N. Church St., Charlotte 2
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Cutchin, J. H., Jr.	Box 333, Roanoke Rapids	Holmes, F. H.	Denton
Dalton, B. B.	Asheboro	Hooper, J. W.	201 N. Front St., Wilmington
Dalton, W. B.	Piedmont Memorial Hospital, Greensboro	Hoover, W. A.	Murphy
Daniels, R. E.	947 Haywood Road, West Asheville	Hovis, L. W. (Hon.)	403 N. Tryon St., Charlotte 2
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Davis, Rachel D.	111 E. Gordon St., Kinston	Hunt, W. S., Jr.	309 Hillsboro St., Raleigh
Davis, R. B. (Ex-Pres.)		Hutchinson, S. S.	Bladenboro
Piedmont Memorial Hospital, Greensboro		Irons, C. F.	Box 744, Greenville
Davison, W. C.	Duke Hospital, Durham	Jarman, F. G.	Roanoke Rapids
Dickinson, Kenneth	500 St. Mary's St., Raleigh	Jeffreys, E. O.	Box 3053, Winston-Salem 7
Dixon, G. G. (Hon.)	Ayden	Johnson, H. L.	Elkin
Dunning, E. J.	1012 Kings Drive, Charlotte 7	Johnson, W. M.	Baptist Hospital, Winston-Salem
Elffmon, S. L.	Box 821, Fayetteville	Johnston, W. O.	1520 East 4th St., Charlotte 4
Elliott, J. A.	1012 Kings Drive, Charlotte 7	Jones, B. N.	310 O'Hanlon Bldg., Winston-Salem
Elliott, W. M.	107 Powell St., Forest City	Jones, O. H.	1012 Kings Drive, Charlotte 7
Emmett, N. T. (Hon.)	Beaufort	Joyner, G. W.	Asheboro
Ernst, H. E.	57 N. Church St., Concord	Justice, W. S.	408 Medical Bldg., Asheville
		Kemp, M. D.	Pinebluff

Kempner, Walter.....	Duke Hospital, Durham	Ogburn, H. H.....	101 N .Elm St., Greensboro
Kennedy, J. P. (Hon.).....	1012 Kings Drive, Charlotte 7	Orr, C. C. (Ex-Pres.).....	Medical Bldg., Asheville
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King, W. G.....	230 Medical Arts Bldg., Greensboro	Pace, K. B. (Ex-Pres.).....	Greenville
Kirby, W. L.....	726 Nissen Bldg., Winston-Salem	Page, W. G.	Lincolnton
Klenern, F. R.....	Box 1015, Reidsville	Parker, W. T.....	Pittman Hospital, Fayetteville
Koonce, D. B.....	Box 98, Wilmington	Paschal, G. W., Jr.....	305 Land's Bldg., Raleigh
Lancaster, N. F.....	Box 414, Waynesville	Pate, M. B., Jr.	Saint Pauls
Lanier, V. C.	Welcome	Payne, J. A., III	Sunbury
Long, W. M.	Mocksville	Peeler, C. N.....	106 West 7th St., Charlotte 2
Lubchenko, N. E.	Harrisburg	Persons, E. L.....	Duke Hospital, Durham
Lyon, B. R.....	342 N. Elm St., Greensboro	Petteway, G. H.....	1524 Elizabeth Ave., Charlotte 4
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Martin, M. S. (Hon.)	Martin Memorial Hospital, Mount Airy	Pishko, Michael	Pinehurst
Martin, W. F. (Hon.).....	403 N. Tryon St., Charlotte 2	Pittman, M. A.....	Woodward-Herring Hospital, Wilson
Massey, C. C.....	403 N. Tryon St., Charlotte 2	Pittman, W. A.....	Walker Bldg., Fayetteville
Matthews, V. M.....	Box 1711, Charlotte	Piver, W. C., Jr.....	Taylor Hospital, Washington
McBee, P. T.	Marion	Pleasant, E. N.....	State Hospital, Raleigh
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McFadyen, O. L., Jr.....	123 Anderson St., Fayetteville	Pott, W. H.....	508 East 9th St., Greenville
McGowan, J. F.	Medical Building, Asheville	Preston, J. Z.	Tryon
McKay, H. W. (Hon.).....	1012 Kings Drive, Charlotte 7	Procter, I. M. (Hon.)	226 Hillsboro St., Raleigh
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Morgan, W. G.	Univ. of N. C. Infirmary, Chapel Hill	Smith, F. C.	106 West 7th St., Charlotte 2
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Call, J. D.	Stuart Circle Hospital, Richmond 20	Johns, W. A.	Johnston-Willis Hospital, Richmond 11
Camp, P. D.	Professional Bldg., Richmond 19	Jones, J. P.	810 W. Franklin St., Richmond 20
Carpenter, E. B.	401 Medical Arts Bldg., Richmond 19	Jordan, W. R.	1631 Monument Ave., Richmond 20
Chitwood, E. M.	Wytheville	Joyer, E. C.	Box 146, Suffolk
Chitwood, W. R.	Wytheville	Keeler, C. E.	1112 Church St., Lynchburg
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Copley, W. H.	1616 Hull St., Richmond 24	Langston, H. J. (Hon.)	Main St. and Jefferson Ave., Danville
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Cox, J. G.	Hillsville	Legum, M. H.	804 Park Ave., Norfolk 12
Craun, G. G.	605-10 National Bk. Bldg., Harrisonburg	London, L. S.	1500 New Hampshire Ave., Washington 6
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		Marsella, J. J.	1061 Main St., Danville

Martin, W. B.....521 Wainwright Bldg., Norfolk 10
 Massie, J. R., Jr.....1000 W. Grace St., Richmond 20
 Masters, H. R. (Ex-Pres.).....212 W. Franklin St., Richmond 20
 McCoy, H. C.....Gordonsville
 McGee, J. E., Jr.....3300 W. Grace St., Richmond
 Meredith, J. M.....1200 E. Broad St., Richmond 19
 Michaux, R. A.....Stuart Circle Hospital, Richmond 20
 Morrison, R. L.....243 Warwick Ave., Lynchburg
 Murrell, T. W.....17 E. Grace St., Richmond 19
 Neal, E. F.....725 Masonic Temple, Danville
 Nelms, N. D.....17 S. King St., Hampton
 Nesbitt, I. F.....5115 Huntington Ave., Newport News
 Nicholson, Margaret M.....1835 Eye St., N.W., Washington 6
 O'Brien, C. G.....Appomattox
 O'Neal, J. T.....Amelia
 Padgett, H. C.....5 Franklin Road, Roanoke 11
 Parker, J. C.....306 W. Franklin St., Richmond 20
 Parker, Rea, Jr.....Smithfield
 Parsons, P. B.....Norfolk General Hospital, Norfolk 7
 Payne, R. L., Jr.....805 Medical Arts Bldg., Norfolk 10
 Payne, W. R.....91 29th St., Newport News
 Poindexter, W. O.....Medical Arts Bldg., Newport News
 Preston, R. S. (Hon.).....Professional Bldg., Richmond 19
 Price, H. M.....15 Starling Ave., Martinsville
 Reed, W. C.....808 Professional Bldg., Richmond 19
 Protas, Maurice.....915 19th St., N.W., Washington 6
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 Rein, W. J.....501 E. Franklin St., Richmond 19
 Richards, M. C.....923 W. Franklin St., Richmond 20
 Ripley, L. P.....803 Medical Arts Bldg., Roanoke 11
 Rixey, W. W.....508 Tuckahoe Apt., Richmond 21
 Romaine, C. N., IV.....1001 W. Franklin St., Richmond 20
 Rosanelli, Peter.....5 S. Boulevard, Richmond 20
 Rosenberg, M. S.....Waverly
 Rowe, M. C.....Martinsville
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 Rucker, M. P. (Hon.).....1238 Rothesay Rd., Richmond 21
 Saunders, A. M.....339 Drivers Bldg., Norfolk 10
 Saunders, J. R.....Westbrook Sanatorium, Richmond 22
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 Shelburne, J. T.....Critz
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 Shinn, H. L.....Halliford
 Showalter, A. M.....Christiansburg
 Showalter, J. T.....Christiansburg
 Siegel, E. V., II.....3007 West Ave., Newport News
 Simpson, W. A.....715 Wainwright Bldg., Norfolk 10
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 Smith, Leroy.....617 W. Grace St., Richmond 20
 Smith, W. P.....26 Wine St., Hampton
 Spangler, L. C.....818 S. Jefferson St., Roanoke 13
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 Stokes, H. G.....Williamsburg
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 Thomas, J. W.....2031 Monument Ave., Richmond 20
 Thompson, W. N.....Stuart
 Thomson, J. L.....405 Wainwright Bldg., Norfolk 10
 Thorhill, R. F.....Pulaski
 Troland, C. E.....1200 E. Broad St., Richmond 19
 Tureman, G. R., Jr.....2113 Raleigh Rd., Route 3, Richmond
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 Turner, N. H.....200 E. Franklin St., Richmond 19
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 Upchurch, R. W.....811 Masonic Temple, Danville
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 Waddell, R. L.....Waddell Hospital and Clinic, Galax
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 Ward, O. W., Jr.....15 S. Mallory St., Phoebeus
 Watkins, W. R.....South Boston
 Watts, J. W.....1911 R St., N.W., Washington 9
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 Wescott, H. H.....803 Medical Arts Bldg., Roanoke 11
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 Allen, D. L.....S. Main St., Greer
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 Baker, R. J.....Baker Sanatorium, Charleston
 Bell, F. A.....Georgetown
 Best, L. K.....107-G Ashley Ave., Charleston 16
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 Blanchard, A. S.....Williston
 Boone, J. A.....16 Lucas St., Charleston 16
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 Bowie, C. F.....813 N. Fant St., Anderson
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 Brockman, Thos.....304 E. North St., Greenville
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 Brown, G. C., Jr.....Walterboro
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 Buchanan, J. C., Jr.....Winnsboro
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 Cantey, W. C.....1412 Bull St., Columbia 1
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 Cathcart, Hugh.....75 Hasell St., Charleston 8
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 Chapman, J. W.....Walterboro
 Charles, R. C.....Bennettsville
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 Cline, L. M., Jr.....210 E. Coffee St., Greenville
 Cochran, W. N.....Andrews Bldg., Spartanburg
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 Cremer, A. E.....1601 Hampton St., Columbia 1

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Griggs, D. C.	Pageland	Smith, B. S., Jr.	151 Broad St., Charleston 4
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Kinney, C. A.	Bennettsville	White, C. H.	Sumter
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(*Physician's Bulletin*, Lilly, McH.-Apr.)

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(E. H. Reinhard, St. Louis, in *Miss. Valley Md. Jl.*, Mar.)

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The Management of Myocardial Infarction

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CORONARY SCLEROSIS, which predisposes to coronary thrombosis and results in myocardial infarction, is a disease that is increasing yearly, due most probably to the fact that infant and childhood mortality has been reduced and infectious diseases better controlled, and so more people reach adulthood to develop sclerosis of the coronary arteries.¹ We, therefore, are seeing more young individuals, particularly young men, with this condition, whose activities are curtailed and their life expectancy shortened, thus reducing their happiness and their usefulness.

Just what can be done to prevent the development of coronary sclerosis? It is known that individuals with a family history of coronary artery disease are more apt to have it themselves² and it has been suggested that some inherited abnormality of metabolism exists that causes cholesterol to be deposited in the intima of the coronary arteries.³ There are a number of clues to indicate that cholesterol metabolism and coronary sclerosis are associated, but wide gaps exist in our knowledge, and much work remains to be done. Gofman and his associates at the University of California have recently reported⁴ a lipoprotein molecule containing cholesterol present in increased quantities in

a large percentage of individuals who have diseases or metabolic states associated with arteriosclerosis. By means of an ultracentrifuge they have separated the lipid components of human serum into four major classes, on the basis of their flotation rates. Only one of these is thought to be important in arteriosclerosis. This fraction is called the SF 10-20 class of molecule—SF after Svedberg, who invented the ultracentrifuge and the flotation rate of 10-20, that of the molecule as the centrifuge spins under certain standard conditions.

It has also been demonstrated that, by a marked reduction of fat and cholesterol in the diet, a decrease of the concentration of the SF 10-20 molecule is effected in both normal persons and those with arteriosclerosis.

Now, no one knows the answers to these questions:

First: Are the so-called normal individuals who have this class of molecule in increased quantities in their blood the ones who will later develop coronary thrombosis?

Second: Will reduction of fat and cholesterol in the diet prevent this from happening?

Much work remains to be done, but it appears that a new vista has been opened in the study of arteriosclerosis.

Obesity seems to contribute to the development of arteriosclerotic cardiovascular disease, in fact 91

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per cent of young soldiers who died of coronary sclerosis were found to be overweight (French and Dock.⁵) Deaths due to cardiovascular disease among obese individuals, among those of normal weight, and among those who are underweight are represented by the figures 1.6, 1.0 and .77.⁶

Autopsy studies indicate that arteriosclerosis, including coronary sclerosis, is twice as frequent in obese as in undernourished individuals.⁷ Weight control is therefore very important in preventing coronary disease.

It is well known that diabetics are prone to coronary arteriosclerosis⁸ and it is probable that improved control of diabetes will reduce the incidence of sclerosis.⁹

It is well known that a large percentage of men over 40 years of age have coronary sclerosis,¹⁰ many of whom do not have symptoms of coronary insufficiency when undergoing ordinary activity. Some of these might have such a deficiency of blood flow to the myocardium on sudden exertion that myocardial irritability could result followed by ventricular fibrillation and sudden death. Myocardial necrosis could conceivably develop also in a similar manner. This mechanism probably causes death or disability in a large number of men every year who might have lived normal lives for many years had they been more conservative in their exercise. It behoves us to advise men who are 40 or over to avoid tasks they did well, 10 and 20 years before.

The prevention of coronary sclerosis is certainly important and perhaps in the future will be more important than the management, just as today the preventive treatment of tetanus is more important than its management. However, at the present time we are daily faced with the treatment of individuals who have had an acute myocardial infarction. It is true that at least 70 per cent of individuals with myocardial infarction will survive if they are put to bed and given sedation to keep them comfortable, but it is also true that this mortality can be reduced considerably by certain procedures that are aimed to: 1. Overcome the physiological changes that develop in the first few hours after an attack occurs. 2. Relieve the work of the heart as much as possible. 3. Prevent complications from occurring. 4. Treat these complications when they develop.

The acute attacks can be divided into two major categories:

a. Those with shock, arrhythmia or severe congestive failure at the onset.

b. Those with milder initial course, without shock, arrhythmia or congestive failure.

In the first group the mortality is high and many patients die within 24 to 48 hours regardless of what is done.¹¹ However, some lives can be saved

by vigorous therapy in addition to the time-honored bed-rest and administration of opiates. Oxygen should be administered, preferably in high concentration by mask. Shock can sometimes be successfully combatted by the administration of whole blood and plasma.¹² There is experimental evidence to support this in the work of Printzmetal and his associates, who demonstrated that a ballooning out of the myocardium occurred in dogs after ligation of a coronary artery if the animal was in hemorrhagic shock, but that this ballooning out disappeared when the shock was controlled by blood transfusions.¹³

It is probably best not to give patients more than 500 c.c. of blood or plasma every four hours, and it is necessary to watch carefully for the development of congestive failure during and after the administration.

The administration of atropine—1 mg. IV initially, followed by 0.5 mg. to 0.75 mg. subcutaneously every four hours to produce effective vagal inhibition—to patients who have developed partial or complete heart block after an infarction may be followed by marked improvement. There is evidence to indicate that the ischemic area in the myocardium initiates afferent impulses that produce vagal stimulation which causes auriculo-ventricular conduction defects and coronary constriction, with resulting increase in ischemia, this followed by further irritability and necrosis.¹⁴ Atropine has been shown to decrease the mortality of dogs after experimental occlusion of a coronary artery.¹⁵

Rapid digitalization will sometimes bring a patient out of severe congestive failure which has occurred shortly after the infarction, and thereby allow him to survive the attack. One of the crystalline digitalis glycosides should be used for this—the rapidity of digitalization depending on the urgency of the condition. Digoxin is rapidly effective and rapidly excreted, thus limiting any possible toxic effect to a brief period. We, therefore, employ this drug more often than the others. Mercurial diuretics and restriction of sodium intake are also used when failure occurs.

Ventricular tachycardia may occur several or many days after the onset of myocardial infarction, and the chief danger of this is ventricular fibrillation. Quinidine is probably the drug of choice for ventricular tachycardia though procaine amide may take precedence over it. Quinidine is given in doses of 0.2 to 0.3 Gm. every three hours until the rhythm is restored. Sometimes a larger dose is required. Procaine amide is given in oral doses of 0.25 to 0.5 Gm. every four to six hours. It can also be cautiously given intravenously in doses of 200 to 1000 mg. at a rate of not more than 200 mg. per minute. Occasionally ventricular fibrillation

will occur regardless of what is done and the patient will die suddenly.

Other arrhythmias such as auricular fibrillation and extrasystoles can be best controlled with quinidine if they persist, or if the extrasystoles are from more than one focus. There is no blanket rule that can be applied to the management of these cases: each must be individualized.

The next major group of patients are those who are not in shock or congestive failure and have normal rhythm. Four out of five will survive on bedrest and sedation, careful attention to congestive failure and respiratory infections, a low-calorie diet, and pleasant surroundings.

A few will go into congestive failure and will die regardless of what is done simply because too much heart muscle is destroyed and it is impossible for the heart to pump the blood around.

Rarely a patient will die suddenly from rupture of the interventricular septum or of the left ventricle, or from ventricular fibrillation. These deaths will not be preventable until we can prevent coronary sclerosis.

It is estimated that ten per cent of these cases such as now prove fatal might be recovered from under most approved management.^{17 18} These are individuals who develop thromboembolic phenomena; that is, extension of the original thrombosis, peri-

CHART I
CONTROL GROUP VS. DICUMAROL GROUP

Age	CONTROL GROUP			DICUMAROL GROUP			
	No.	Died	Mort. %	Age	No.	Died	Mort. %
30-39	5	2	40	30-39	5	0	0
40-49	12	1	8.3	40-49	14	2	14.3
50-59	33	6	18.2	50-59	30	3	10
60-69	33	12	36.4	60-69	36	5	13.9
70-79	15	5	33.3	70-79	21	6	28.6
80-89	2	2	100	80-89	2	2	100
Total	100	28	28	Total	108	18	16.7

CHART II
THROMBOEMBOLIC COMPLICATIONS

	CONTROL GROUP	DICUMAROL GROUP		
	No.	Died	No.	Died
Peripheral Venous Thrombosis	2	1	0	0
Pulmonary Embolism	10	6	0	0
Peripheral Arterial Embolism	1	1	0	0
Cerebral Vascular Accident	3	1	0	0
Extension of Thrombosis	0	0	2	0
Total	16	9	2	0

16 Episodes Occurred in 14 Patients
8 of These Patients Died
Mortality—51.1%

CHART III
RESULTS OF TREATMENT WITH DICUMAROL IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

Sources	No. of Patients	Deaths	Deaths %
Parker and Barker ¹⁹	50	5	10
Peters, Guyther, and Brambel ²⁰	50	2	8
Wright, et al. ¹⁷	432	64	15
Greisman and Maurer ²¹	75	7	9
Nichol and Page ²²	44	8	18
Present Series	108	18	16.6
Total	859	104	12.1

pheral thrombosis with pulmonary embolism or mural thrombosis with embolism to a peripheral artery. By proper administration of anticoagulants these developments can largely be prevented and many lives saved.

We have reviewed two groups of cases, one of which was treated with anticoagulants, and the other reported as a control group. Those of the first group were all given dicumarol in doses adequate to keep their prothrombin time between 30 and 60 seconds. There were 108 in the treated group and 100 cases in the control group. They were not alternate cases; the controls were seen in the hospital before dicumarol was generally used, while the dicumarol group consists of those seen in 1948 through 1950. A few were given heparin for the first 48 hours.

Chart I shows these two groups with the incidence in each age group, the mortality by decades and the total mortality.

Chart II shows the number of thromboembolic complications and the mortality of these complications in the two series. As can be seen 16 episodes occurred in 14 of the control group and eight of these cases proved fatal, a mortality of 51.1 per cent; while in the dicumarol group two had extension of the original infarction, from both of which recovery was made. One of these did not have a therapeutic prothrombin time during the three days prior to the occurrence of the extension.

We next compared the mortality of our series with several other reported groups and Chart III shows this comparison. The current series fits in fairly well with the other groups.

SUMMARY

1. The incidence of coronary sclerosis can probably be reduced by avoidance of obesity, careful control of diabetes and possibly by reduction of fat and cholesterol in the diet.

2. The mortality of acute myocardial infarction can be reduced by vigorous application of measures designed to reverse physiological changes which develop after an attack has occurred, and by prevention of thromboembolic phenomena.

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Control Group	Total Mortality 28%
	Mortality of Patients in Shock 46.4%
	Mortality of Patients Not in Shock 20.8%
Dicumarol Group	
	Total Mortality
	Mortality of Patients in Shock 50.0%
	Mortality of Patients Not in Shock 9.0%

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Diagnosis and Treatment of Adenomatous Polyps of the Colon and Rectum

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THIS presentation is based upon a clinical study of 53 patients with 59 adenomatous polyps of the colon and rectum. These adenomatous polyps were discovered over a period of three years in a private practice of proctology. Thus, it would seem that they are much more common than is generally thought. The incidence in the general population based upon autopsies is reported as from 1.7 to 21 per cent, whereas the incidence based upon proctoscopic examination is reported all the way from 1 to 15 per cent. A polyp is a smooth and pedunculated growth from a mucous membrane; thus, it is seen that the term is not a specific one and may be misleading, as it is often used in discussing any lesions of the large bowel. Familial polyposis and the pseudopolyposis associated with ulcerative colitis and other inflammatory diseases of the large bowel are excluded from this discussion. Hypertrophied papillae and submucosal tumors are excluded as they constitute a separate entity.

The most important thing to remember is that adenomatous polyps of the colon and rectum are premalignant lesions. Several of our leading surgeons in this field have gone so far as to say that all of them become malignant if left in long enough. Lockhart-Mumery and Dukes considered adenoma merely a stage in the development of malignancy.

Polyps may be true or pseudo polyps. The pseudo polyps are usually secondary to inflammatory conditions. They may be single or multiple, sessile or pedunculated with a stalk several inches long. Adenomatous polyps are the most common benign tumors of the rectum. They vary from a mm. to 10 cm. The smallest in our series was 1.5 mm. and the largest was 3.5 cm. Forty-four of our patients had a single adenoma and nine had multiple adenoma, the most in any one patient being four, but there may be more.

The location of adenomatous polyps is similar to that of malignant disease. 91.5 per cent of ours were visible through the procto-sigmoidoscope and 65 per cent of these were on the anterior wall. Our incidence of malignancy was 6 per cent, which is much lower than usually reported. Most reports show an incidence of around 15 to 20 per cent.

They may occur at any age, Table 1. Our youngest was 2½ years old, and oldest 83 years old. 15.1 per cent were in children. They are much more frequently seen in the first ten years of childhood than during the second decade. In adults the average age is about ten years less than the average for carcinoma of the colon and rectum, which should impress one with their premalignant nature. 67.8 per cent were in males.

SIGNS AND SYMPTOMS

The most important and the most frequent symptom is that of a passage of blood which may be light or dark red, clots or wine-colored discharge. Whenever there is a history of blood by rectum one should think of a tumor and not hemorrhoids. The passage of blood from the rectum in children should always lead one to suspect the presence of an adenomatous polyp. Although bleeding from the rectum in adults is usually due to hemorrhoids, one should never make this diagnosis until a thorough procto-sigmoidoscopy and x-ray examination, when indicated, has been done. Making a diagnosis of hemorrhoids without proper examination results in more catastrophies than any other error in dealing with lesions of the colon and rectum.

Other signs and symptoms are mucous discharge, prolapse, intussusception, cramping and lower abdominal pain, constipation or diarrhea, tenesmus, and change of bowel habit.

In diagnosing adenomatous polyps of the colon and rectum the most important point to remember is that the majority are asymptomatic. Sixty-eight per cent of cases were asymptomatic and found upon routine procto-sigmoidoscopic examination done in conjunction with a complete work-up of a patient without signs or symptoms, or prior to anal surgery. Procto-sigmoidoscopy should always be done before doing a hemorrhoidectomy or other anorectal surgery.

In spite of the emphasis that has been put upon the importance of this procedure, it is amazing how seldom it is done. In our hospital in 1950, 1,347 barium enemas were performed, but only 228 recorded procto-sigmoidoscopies. Barium enemas do not take the place of procto-sigmoidoscopies, and vice versa, and no study of the large bowel is complete without both. One is an adjunct to the other, and where one is indicated, usually both are. It cannot be urged too strongly or too frequently that

in order to discover these lesions at an early stage, every opportunity for procto-sigmoidoscopy should be seized upon.

DIAGNOSIS

The routine methods of diagnosis by digital examination, procto-sigmoidoscopy and x-ray study suffice in practically all cases. When one polyp is found, the entire large bowel and rectum should be thoroughly studied for additional ones. Adenomata of the rectum are to be distinguished from hypertrophied papillae, internal hemorrhoids, villous papillomata, mucous prolapse, procidentia and carcinoma.

TREATMENT

There is only one treatment—removal. As stated previously, when an adenoma is discovered on a routine procto-sigmoidoscopy, x-ray examination of the entire colon is indicated to ascertain if an additional lesion is present. Since all adenomatous polyps are considered premalignant, it is imperative that they be removed: this can hardly be too strongly emphasized. The finest and most satisfactory treatment in dealing with cancer of the colon and rectum is being on the alert, diagnosing and removing adenomatous polyps adequately. It is chiefly by this means that we can lower the death rate of cancer of the colon and rectum.

Ninety per cent of polyps are visible through the procto-sigmoidoscope and most of these can be removed through the scope if adequate instruments are available. Figures 1 and 2 illustrate the instruments we think necessary. Figure 1 shows a scope, biopsy forceps, and suction tube, of which there are several varieties. Next to the bottom is a forceps usually used as a cotton carrier, but often valuable in manipulating a polyp for complete examination and when using the electric snare. Figure 3 shows the electric snare and just beneath it a useful electrode for obtaining tissue for biopsies and electro-coagulating bases. It carries various types of tips, several of which are shown, and is hollow with holes at the distal end so that smoke may be aspirated while coagulating. The next is a most valuable instrument in controlling a bleeding point as you can aspirate blood, smoke, etc., and coagulate at the same time. These two are carried by the same handle. The one at the bottom is not necessary but very handy at times. It may be divided in the middle and used as a 6-inch electrode, has a good angle at the handle, and also carries various types of tips.

We have employed four methods of removal through the scope (Table 2). Removal by biopsy forceps followed by electro-coagulation of the base is preferred to simple electro-coagulation or removal by biopsy forceps. Division of the pedicle by diathermy snare and electro-coagulation of the base is the most desirable when usable. By this

method there is complete removal and destruction of the base, and adequate pathological study of specimen removed.

With an adenoma above the peritoneal reflection, especially on the anterior wall, extreme caution must be used because vigorous traction or manipulation at the base of the pedicle may result in a tear or a slough with perforation through the peritoneal coat. When a polyp of the sigmoid is large enough to fill the scope and one is unable to adequately visualize the entire lesion including the base it is best to approach it through the abdomen.

Figure 3 shows a specimen removed from an individual who consulted a physician for rectal bleeding and was told the bleeding was coming from hemorrhoids, which he had. Nine months later, we made a sigmoidoscopic examination and found a lesion of the sigmoid. This was biopsied and the pathological report was that of a benign lesion. Following this report, we attempted to remove it through the scope, but after removing some of it, we felt it too extensive and decided upon an abdominal approach. The tissue removed through the scope at that time showed questionable malignancy and a resection of the sigmoid and part of the descending colon was carried out seven days later. This slide also shows the nice healing that follows removal by electro-coagulation. In addition to the large lesion he had two smaller benign polyps which no doubt are transplants. There is also a diverticulum present.

A polyp seen in the upper rectum may actually arise much higher, i.e., in the pelvic colon, and be seen lower down owing to the formation of a long pedicle, or to its being intussuscepted. For example, Figure 4 shows a specimen with a very long pedicle removed transcolonically from the upper portion of the sigmoid of a patient first seen complaining of rectal bleeding and left lower abdominal pain and cramps. A clinical diagnosis of a polyp of the descending colon or sigmoid was made. Procto-sigmoidoscopy and x-ray studies failed to show any lesion. Her symptoms continued and a couple of months later she was re-studied. X-ray studies were again negative, and procto-sigmoidoscopy was repeated and with the scope all the way in nothing was seen, but just as we started to remove the scope she strained and the polyp suddenly filled the end of the scope and was easily pulled down into the lower end of the rectum.

The 10 to 20 per cent that cannot be removed through a scope can be excised by one of the following methods (Fig. 7). Large accessible ones may be excised per anum, and the base treated by electro-coagulation depending upon the individual lesion. In our opinion those adenomata below the peritoneal reflection that show malignant changes

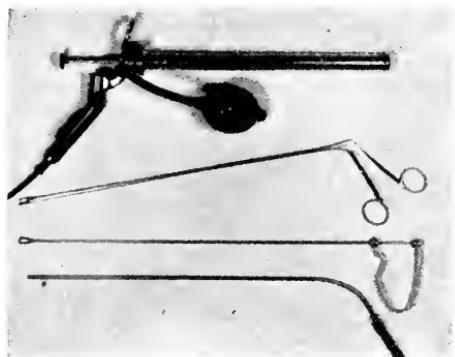


Fig. I

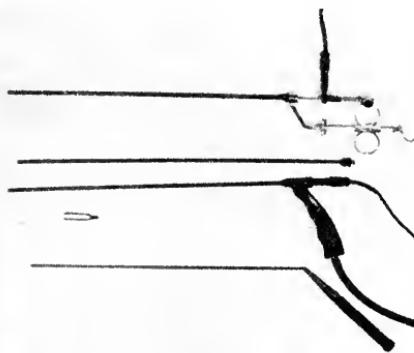


Fig. II

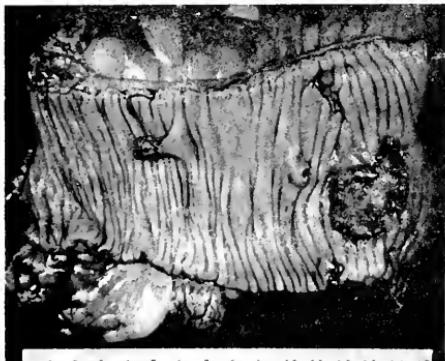


Fig. III

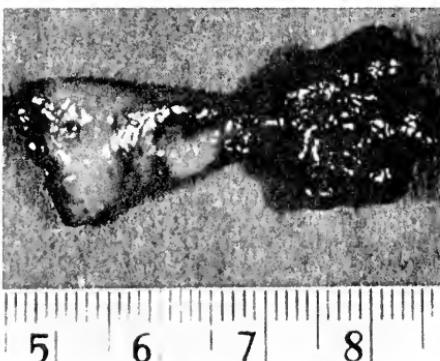


Fig. IV

with involvement of the bowel wall are best handled by abdomino-perineal resection. This procedure has the lowest morbidity and mortality, and gives the best chance of permanent cure. Transcolonic excision is the method of choice for those located proximal to the recto-sigmoid not accessible through the scope. An incision is made vertically through the longitudinal band which gives adequate exposure. A sterile sigmoidoscope may be inserted above and below to determine if additional processes are present. Frozen section should be made and, if the report is malignant, adequate segmental resection should be carried out. Segmental resection is indicated with large sessile lesions or where microscopic examination shows involvement of the pedicle.

We feel that all these patients should be put on antibiotics prior to removal and kept on them for several days afterwards. Since doing this, we have had no complications, but before instituting this routinely hemorrhage occurred in two of our cases, 7 and 10 days, respectively, after removal. One of these patients had to return to the hospital for electro-coagulation of the bleeding point. The other one cleared up spontaneously. Also they should be

Table 1
AGE AND SEX INCIDENCE

AGE		
Youngest—2½ yrs.	8 cases	Oldest—83
2-14 yrs.		15.1%
20-30	1	
31-40	9	
41-50	14	26.4
51-60	12	22.6
61-75	8	
75 up	1	
Total	53	
SEX		
Males	36	67.8
Females	17	32.1

Table 2

REMOVAL THROUGH PROCTOSIGMOIDOSCOPE	No. of Polyps
Method	
Electrocoagulation	2
Biopsy excision	8
Biopsy excision and coagulation base	9
Electric snare and coagulation base	30

Table 3

OTHER METHODS OF TREATMENT

Surgical excision	1
Transcolonic excision	3
Segmental resection	4

in the hospital at time of removal. Since we are dealing with premalignant lesions all should be

examined after removal every six to eight months as long as they live.

Of course we have not had time to follow any of these longer than three years; but so far all are living with no evidence of any recurrences.

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ACUTE APPENDICITIS; 200 CONSECUTIVE CASES WITHOUT MORTALITY

(W. S. LU, M.D., et al., Peking Union Medical College, in *Chinese Med. Jl.*, Feb., 1951)

In a previous report, all cases of acute appendicitis admitted to the Peking Union Medical College Hospital from 1922 to 1941 were reviewed, and a mortality rate of 3.8% was recorded among 1000 cases. The present study includes all (200) cases of acute appendicitis treated from the reopening of this hospital in May, 1948, to the end of June, 1950, a period of 2 years and 2 months. All cases in which the surgeon or pathologist reported the lesion as "subacute," "chronic," or "healed" were excluded; 195 cases were treated by operation, 5 cases conservatively. No death occurred.

Spinal anesthesia was employed in 175 operations, local anesthesia in 12, sodium pentothal in one, ether in seven.

Drainage was not established unless there was a definitely localized collection of pus. In the 43 cases of peritonitis, drainage of the peritoneal cavity was attempted in only 8 instances. Three of these 8 patients were suffering from generalized peritonitis as a result of a ruptured appendiceal abscess, and drains were inserted down to the site of the primary abscess; in the remaining five cases, less obvious indications were present. Among these eight cases, complications developed in five, although there was no death; whereas of the remaining 35 patients only 9 had complications.

The previous report included 222 cases of appendiceal abscess in which the appendix was removed at the time of the first operation in 114 instances. There were seven

deaths in this group (a mortality of 6.1%); and at least three of the deaths were due to generalized peritonitis as a result of the operation. In contrast, among the remaining 108 cases in which only incision and drainage were carried out, there was but one death (a mortality rate of 0.9%). In the present series, nine of the 12 cases of appendiceal abscess were treated by incision and drainage only (no mortality). It is thus our belief and practice that unless the appendix is readily found within the abscess cavity, the primary operation for appendiceal abscess should be limited to incision and drainage only.

To all patients with appendiceal abscess who recover following either conservative treatment or a drainage procedure, the advice must be given to return for interval appendectomy after two to three months.

Chemotherapeutic agents. The previous report indicated the effect of sulfonamides on the lowering of the incidence of pulmonary complications and mortality rate. As the drug became available only since 1938, it was used in a small fraction of the cases in the last series.

Sulfonamides and antibiotics were often given in those cases where there was a danger of wound infection or pulmonary complication. In the group with peritonitis or abscess, these agents were given as a routine both before and after operation. Penicillin in doses of 30,000 units q. 3 h. is in general more effective than the sulfonamides. In over two-thirds of the cases, sulfadiazine was given in combination with penicillin. Streptomycin was given only three patients, one with generalized peritonitis, one with an abscess and one with postoperative pyelonephritis.

Three instances of minor wound infection occurred, due to contamination of the wound at the time of the operation. All these three patients received sulfadiazine postoperatively. In five cases with peritonitis, abscess of the operative wound developed postoperatively although all of them received penicillin after the operation.

Postoperative complications: wound infection—minor 3, abscess of wound 4, thrombosis of superficial vein of abdominal wall 1, pyelonephritis 1, peritoneal abscess 2, pelvic abscess 7, subphrenic abscess 1, intestinal obstruction 2, fecal fistula 3, atelectasis of lung 1, and miscarriage 1.

The more extensive preoperative and postoperative use of chemotherapy in complicated cases is considered to be the most important factor in the general improvement of the results.

Early diagnosis and early operation remain key principles in the management of simple acute appendicitis. In complicated cases the choice of anesthesia, the timing of operation, the fluid and electrolyte balance and the control of distention with gastro-intestinal decompression deserve careful consideration.

MINKS AND MINX

(From an Editorial in *New England Journal of Medicine*)

Various fur-bearing animals possess heat-producing mechanisms superior to those of animals of more temperate climates. . . . As Jacob learned, however, when he robbed Esau of Isaac's blessing, a fur coat also helps. . . . To paraphrase the zoologists, it takes more than a mink coat to keep a minx warm, whether in Alaska or the District of Columbia.

IN FINLAND, fish tapeworm (*Diphyllobothrium latum*) disease constitutes a problem of importance. In the eastern part of the country there are districts where practically every person, with the exception of quite small children, is a worm-carrier and accustomed to expelling worm segments at intervals. There are even cases where expulsion of the parasite has had to be done on a sucking.

—*Annales Med. Int. Fenniae*, 1950.

Congenital Heart Disease

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IN THE short time allotted for this presentation, a brief sketch only of this complex and interesting subject can be given. Only a few years ago, very few clinicians needed to concern themselves with detailed knowledge of the subject. But the recent rapid advances in heart surgery have made it imperative for all physicians to have much wider acquaintance with it and more detailed knowledge of its various types.

At the present time, as a result largely of the work of Drs. Robert Gross in Boston and Alfred Blalock in Baltimore, standardized operations with reasonable mortality figures have been developed for the cure or relief of three congenital anomalies: patent ductus arteriosus, the tetralogy of Fallot and coarctation of the aorta. In patent ductus, ligation alone or combined with division of the persistent communication results in complete cure. In the tetralogy, provision of a larger blood supply to the lungs by artificial production of a ductus arteriosus results in marked reduction of cyanosis and dyspnea but not complete cure. Surgical excision or bypassing of the narrowed portion of the aorta in coarctation leads to relief or cure of hypertension, depending on whether the lesion is of sufficient duration to cause permanent arterial disease and irreversible hypertension.

This ability of hypertension to produce vascular changes and set up a vicious circle where these changes produce further hypertension has become evident in recent years. The application of the same principle to the pulmonary circulation is now beginning to be appreciated through direct studies of this region in human beings.

The development of surgical methods of relief of cardiac deformities has led to elaboration of the procedure of catheterization of the right heart and pulmonary artery, which over twenty years ago was devised by Forssmann in Germany. The measurement of pressure and oxygen content in the chambers of the heart and great vessels makes possible a much more accurate diagnosis of anatomical defects than is possible with other methods, and is a powerful diagnostic aid in selecting cases that will be amenable to surgery.

As yet, cure of the most common congenital lesions, defects in the septa between auricles and ventricles, has not been developed. Yet the need for such operations is becoming more evident. It

has long been known that the majority of these septal defects place little strain on the heart, and isolated examples are reported of patients reaching advanced age in spite of them. Nevertheless it has also been known that very few of them live beyond the age of 30 or 40. Most clinicians have guessed that the complication of bacterial endocarditis has caused the marked decrease in life expectancy.

However, as experience is being gained with cardiac catheterization in various age groups, it is becoming evident that another important factor must be operating: the development of hypertensive vascular disease in the pulmonary circulation. During the past year somewhat more than fifty patients have been subjected to catheterization of the right heart at the Medical College of the State of South Carolina. The most common lesions found have been defects in the auricular or ventricular septa. Very uniformly in children, the pressure in the right ventricle and pulmonary artery has been found to be slightly or moderately elevated when these septal defects were present. However, in every adult that we have seen with similar lesions, the systolic pressures in right ventricle and pulmonary artery, which normally do not exceed 30 mm. at rest, have closely approached the systolic pressure measured in the patient's systemic arteries.

This strongly suggests that the persistence of a slight elevation in blood pressure in the pulmonary circulation will lead in time to the development of pulmonary arterial disease and hypertension, and is probably the largest factor operating in the failure of patients with slight congenital heart defects to reach middle age. It is a strong argument for the further development of the surgery of these defects, and for urging such operations in children with apparently insignificant lesions.

BROAD USEFULNESS OF CHLOROMYCETIN in urinary tract infections is its clinical effectiveness in infections caused by both gram-positive and gram-negative pathogens and in its high degree of safety. There is clear indication for its use in gram-negative infections of the urinary tract, and a large percentage of urinary infections, especially acute bladder infections in women, reveal only gram-negative bacilli. Purely gram-positive coccal infection probably calls for penicillin unless the cocci are resistant to penicillin. Many strains of staphylococci and other coccal forms are sensitive to Chloromycetin.

—*Therapeutic Notes.*

PENICILLIN OINTMENT is the most efficacious, the safest and the least irritating agent for the prophylaxis of gonorrhoeal ophthalmia.

—H. H. Davidson, Balt., *JL. A. M. A.*, April 7th.

DEPARTMENTS

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

DENTAL SURGERY ON THE PALSID

THE GREAT increase in the last few years in interest in palsied children and their problems makes specially opportune the appearance of an article on dental treatment of these unfortunates.¹ This article's main points are abstracted.

Half of the cerebral palsied require a general anesthetic for ordinary dental care. These children's dental hygiene is usually poor and they need more dental care than other children.

The problem to the dentist is that of being able to do his work in a mouth free from interfering tongue motions, sudden closing of the jaws, salivation, lack of ability to expectorate; and, finally, free from the interference caused by involuntary motions of the facial muscles.

Many of the palsied do not know when their jaws may close. Many cannot speak so it is difficult to tell when the child has a toothache and its location. The practice of evasive lies and promises of rewards for good behavior is to be condemned as it only breaks down the patient's confidence in the doctor and parents.

Fifty per cent of these children have had seizures at one time or another. Dilantin causing overgrowth of the gums also presents a dental problem.

Our concern is for the child who, because of his motor disability, is not adaptable to usual care. We must utilize a technique of anesthesia and procedure which will permit the doctor to operate carefully and successfully in the mouth.

Consultation with the family physician is a necessity. Judicious use of sedatives, hypnotics, and analgesics reduces the amount of anesthetic agent required and thereby increases the margin of safety. Postoperatively, they lessen recurrence of seizures previously under control. Atropine or scopolamine is used for its drying effect.

Nothing should be taken by mouth for at least six hours before the procedure. Glucose or lactose is given either with premedication or a few hours prior to induction of anesthesia. Difficulty in swallowing makes it difficult to administer postoperative fluids and food.

The dental chair is converted into an operating table by strapping a plywood board of correct size to the flattened horizontal chair. The leather cushions are placed on top and covered with a plastic

¹ R. V. Martin, M.D., Brooklyn, and S. R. Spiro, D.D.S., New Hyde Park, in *Medical Times*, April.

sheet. The advantage of this combination is that the operating table so arranged can be raised or tilted into any required positions, and can be reconverted back to a dental chair.

The patient comes to the office, having received the premedication. Induction in most patients is with nitrous oxide and oxygen with the mask just off the face, allowing the gases to flow over the nose and mouth, gradually applying the mask more securely and firmly. At signs of unconsciousness and approaching third stage of anesthesia, the nitrous oxide mixture is supplemented with vinethene. When the signs of mid-1st plane stage anesthesia are reached, the vinethene is shut off and ether started by drip into the rebreathing canister and bag. When ready for the procedure a mouth prop is placed between the teeth, packing is placed as a curtain from the buccal sulcus of one side across the posterior aspect of the tongue and palate, to the buccal sulcus of the opposite side. Using a closed system, with N_2O shut off, a flow of 600-800 c.c. O is instituted. An ether drip cup attached to the soda-lime canister is used for giving ether when the requirement presents itself.

First are prepared all the cavities on one side of the mouth, placing the fillings or restorations in and then treating the opposite side in similar fashion. The nurse during this time is using the aspirator tip to suck up all remnants of tooth dust and other particles. The nurse also retracts the tissues of the mouth and uses the air tip to cool and clean the tooth being treated.

The operative dentistry completed and gauze packing replaced, any required surgery such as extractions, cyst removals, impactions, etc., is performed. The hypopharynx and larynx are examined with a laryngoscope in order to discover any materials which may have slipped past the oral gauze packing.

After the procedures are completed the patient is placed in the recovery room and left with a nurse. The mother's presence is requested.

AGAIN—BEWARE OF INFECTION OF LIP OR NOSE

(B. J. Piccaral, *Med. Times*, Dec., 1950)

The triangular area extending from the angles of the mouth to the bridge of the nose contains veins which directly communicate with the cavernous sinus, making infections of this area especially dangerous by causing thrombosis in the sinus. This is the reason that furuncles of the upper lip and nostrils not infrequently terminate fatally. The treatment of infections of this area is therefore ultraconservative: Complete rest, no speaking, liquid nourishment, hot fomentations and sulfonamides and penicillin as general treatment.

THE FRESHLY INJURED HAND should be covered early as possible with a clean or sterile dressing. Probing of the wound should not be done. Antiseptics should not be applied to the wound. The hand should be splinted before

the patient is transported to a hospital. In case of any question of bone injury, x-rays should be made of the injured extremity.

—D. C. Riordan, *N. O. Med. & Surg. Jl.*, Mar.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

CURABLE HYPERTENSION

WHEN a patient comes complaining that he is getting deaf, examine his ears for wax. Removing the wax may relieve your patient and make you a great reputation. If the deafness is not due to wax it is unlikely that much improvement of the hearing can be effected.

This line of reasoning and procedure is applicable to high blood pressure, as considered by Becker.¹

Despite rice and other low salt diets, sympathectomy and psychotherapy, the cure of hypertensive disease is impossible except for certain cases of unilateral kidney disease, coarctation of the aorta, and functioning tumors of the chromaffin system — pheochromocytoma. "Curable" — herein lies the importance of pheochromocytoma. The diagnosis is simple, and eradication of the disease is possible.

These chromaffin tumors produce high b. p. by the secretion of epinephrine and/or a substance closely related. They most commonly arise from the medullary tissue of the adrenals but may occur anywhere in the chromaffin system — in the thoracic paranganglia, the abdominal paranganglia, or the organ of Zuckerkandl. They are called chromaffin tumors because the cells have affinity for chromic acid.

Smithwyck, in a recent series of 1,000 patients undergoing sympathectomy for high b. p., discovered five pheochromocytomas on routine examination of the adrenal glands during the operative procedure. [Of course only a small percentage of the total of persons with high b. p. apply for sympathectomy.]

Cases of intermittent high b. p. with tremor, sweating and headaches are apt to be misdiagnosed as psychoneurosis. In cases with convulsions, pheochromocytoma may simulate brain tumor, epilepsy, or eclampsia. Three of our cases and nine others known to us became manifest during pregnancy.

The diagnosis is based upon 1) a high index of suspicion, 2) depression of the elevated b. p. by pharmacologic means, 3) provocation of an attack, and 4) attempt at localization.

Every patient with hypertension should be suspected of having a pheochromocytoma until this possibility is ruled out.

1. M. C. Becker, Newark, in *The Merck Report*, April.

In the presence of a secreting pheochromocytoma, a brief but definite drop in b. p. resulted from the injection of a test dose of benzodioxan, provides an effective, simple, harmless means of detecting a functioning pheochromocytoma in the routine study of all sustained hypertensives and during the hypertensive stage of intermittent hypertension.

The rapid injection of histamine base in the majority of cases reproduced attacks identical to the spontaneous attack of which these patients complained. The test must be reserved for cases of paroxysmal hypertension and during the stage when the pressure is normal.

Fifty per cent of these patients have x-ray evidence of a tumor mass in the adrenal area, either by intravenous pyelography (32%) or perirenal insufflation (18%). Surgical exploration always is indicated whether the tumor is localized or not.

THE RICE DIET IN AMBULATORY PATIENTS WITH ESSENTIAL HYPERTENSION: A TWO-YEAR STUDY OF 105 PATIENTS (D. G. Loofbourrow et al., Boston, in *New Eng. Jour. Med.*, April 19th)

In two years' time two (12.5%) of the strict group had maintained improvement in b. p.; three (19%) had died; in 9 (56%) the disease had progressed; and in 4 (23%) the disease had remained stationary. In a random group treated on a conservative medical program, we could easily match these results, unless the group were weighted with cases of malignant hypertension.

The factors in favor of the use of the rice diet are that it is definite therapy for those patients who have extreme blood-pressure anxiety, that it teaches self-discipline to patients who can accept it, and that it is easy to teach and simple to follow.

The factors against its use are several. The diet is by no means innocuous; it is lethal if the patient is not carefully watched. The increased time needed for observation puts a heavy load on the doctor and increases the cost to the patient, because of weekly visits. The diet is so monotonous that in some patients it has seemed responsible for recurrent depressions and in others for overt hostility such that we have been unable to persuade patients to return.

We are planning a program for the next several years, using a diet that has a normal protein, a very low fat, a low salt content and c.-h. higher than normal (unless it is desirable for the patient to lose weight). We expect this diet to be acceptable to the patient; it has definite advantages from a nutritional point of view.

It is our opinion at this point that the rice diet is unpleasant and expensive for the patient, very demanding on the doctor and potentially dangerous. In ambulatory patients it produces no better results than more conservative medical therapy.

SMALFOX (108 CASES) IN WUHU (Alfred Y. S. Tan, M.D., Wuhu General Hospital, Wuhu, in *Chinese Medical Journal*, Jan.-Feb., 1951)

As high as 95 per cent of all persons were estimated to have suffered from this disease before the development of vaccination. In China, during the period of 1920-1930, few persons had been vaccinated. Today too many infants and adults are not vaccinated until the appearance of an epidemic when compulsory vaccination is enforced by the local health authorities. Our earliest admitted cases were soldiers and family members of the military staffs. After

the Liberation, our hospital served as an isolation hospital for smallpox and we saw 108 cases.

ANALYSIS OF 108 CASES
Age Incidence and Mortality:

Age	Recovered	Died	Total
1- 5 months	3	3	6
6-11	0	4	4
1- 2 years	2	4	6
3- 4	1	5	6
5-10	4	3	7
11-20	35	2	37
21-40	42	0	42
Total	87	21	108

Majority of "never vaccinated" had confluent and other severe pox with high mortality, while mild discrete or modified smallpox cases were always of subjects who had vaccination in recent or past years and some of them in childhood. If 21 fatal cases, all were "never vaccinated."

It is concluded that all infants should be vaccinated at 2 months, earlier in the presence of an epidemic.

HUMAN BEHAVIOUR

For this issue THOMAS F. COATES, JR., M.D.
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Member of the Staff of Westbrook Sanatorium

IMPORTANCE OF FRIGIDITY

DESPITE our present-day enlightenment on sexuality, frigidity in women is often ignored or dismissed as inconsequential. Many women are told by their mothers that it is perfectly normal for them to have little or no sexual feeling; others are led to believe that expression of such feeling is abnormal or sinful. Conflicting sexual information is obtained from books, articles and in school. These and other factors may result in total or partial frigidity which can do much to wreck a marriage.

Women with problems involving frigidity seem to fall into two general groups: (1) those who seek the physician's help complaining of frigidity; (2) and those who present themselves with symptoms which appear totally unrelated to sex.

Among the first group are many young women, married a short time, who have found themselves either unable to have intercourse or to reach an orgasm. Opportunity to talk over the problem, and simple explanation and reassurance from the physician will usually help these women to reach some kind of a superficially satisfactory adjustment.

The second group will usually be women who have been married several years and who will complain of severe headache, backache, alcoholism or some bizarre hysterical symptom. These patients will seldom consciously admit any sexual problem, but under hypnosis or sodium amyta will usually readily give a history of sexual maladjustment. Often it will be found that they have strong sexual desires which they are attempting to deny. Many

of these patients too can be relieved by simple psychotherapy.

In reviewing the histories of many patients seen because of psychiatric difficulties after the menopause, it is noted that a significant number of them, in earlier years, have visited physicians with complaints noted above. Without meaning to imply that sexual maladjustment in itself in these cases was the most important difficulty, it does seem that it should be interpreted as an evidence of potentially serious personality maladjustment and that each such case should be considered for psychotherapeutic treatment. Reassurance, etc., as previously mentioned, is important and worthwhile; but, if successful, it does nothing more than alleviate the immediate symptoms, leaving the more serious personality problems unchanged. Incidentally, the success of such treatment in relieving symptoms is a fairly good indication that the patient is a person who can respond to psychotherapy.

To summarize, problems of frigidity are commonly seen and often treated lightly, but should be viewed as warning signals of possible deeper-seated personality maladjustment. Psychotherapy for these patients in earlier years may prevent more serious illness in later years.

GYNECOLOGY

RACHEL D. DAVIS, M.D., *Editor*, Kinston, N. C.

SELF-EXAMINATION OF THE FEMALE BREAST
SAYS the *Texas Cancer Bulletin* (April), self-examination of her own breasts is woman's best answer to the menace of breast cancer. When cancer symptoms in the breast become obvious, they usually mean that the disease is far advanced. The individual woman must learn to watch for and to recognize the disease before it becomes advanced.

Minute direction is given how she should make such examination.

The woman places herself squarely before a mirror, her arms at her sides, and posture erect. She carefully examines her breasts in the mirror for symmetry in size and shape, especially noting any puckering or dimpling of the skin or retraction of the nipple.

She raises her arms over her head and again studies her breasts in the mirror, looking for the same signs as before and for any evidence of fixation of the breast tissue to the chest wall as she moves her arms and shoulders. If one breast has recently become more pendulous or larger than the other, her physician should be consulted.

The woman reclines on her back on a bed, the breasts spreading and thinning and so their structures may be more easily felt. She places a flat

pillow or folded towel under the shoulder on the same side as the breast she will first examine.

Now with her arm at her side, she places the opposite hand over the breast and with the flats of her fingers gently presses the breast tissues against the wall; beginning with the outer half, the systematically feels that entire half. Then she raises the arm above her head and examines the inner half, beginning at the breast bone. The padding is placed beneath the other shoulder, and the second breast investigated in exactly the same manner with the arm on that side first down, and then raised over her head.

Along the lower margin of the inner half of each breast she will find a ridge of firm tissue which is normal, and should not alarm her.

I am not at all certain whether the general adoption of this program would do more of good than of harm. The breast is naturally a lumpy organ, more so after it has provided suck. Bloodgood said he examined before allowing a patient who came because of a lump in the breast to tell him which breast, to see if he and the patient found the lump in the same breast.

It is worth thinking about, and worth putting into practice in cases of well-balanced women patients.

**SPONGE BIOPSY MORE VALUABLE THAN SURGICAL IN
DISCOVERING EARLY CANCERS**

(S. Gladstone, New York, in *J. A. M. A.*, April)

Sponge biopsy, a newer method of cancer detection, has proved valuable in discovering cancers of the cervix, rectum, mouth and skin.

A gelatin or cellulose sponge is rubbed on a suspected lesion; small particles of tissue are picked up by the sponge, which are then examined by a pathologist.

For the detection of early cervical carcinoma, the method was found to be very reliable and distinctly superior to the method of surgical biopsy as usually performed.

Of a series of 641 women so examined for cancer of the cervix uteri, 16 cancers were found, nine of these suspected because of ulceration, bleeding or both, 7 very early showing no symptoms.

Sponge biopsies on 32 patients with ulcerating lesions of the rectum showed cancers in 15.

These findings were all confirmed by surgical biopsy, surgical specimen or operative findings.

Further report is made of 40 sponge biopsies on ulcerating lesions of the mouth, revealing 12 cancers, and 22 sponge biopsies of the skin, indicating 11 cancers—all confirmed by surgical biopsy.

The author concludes: "Because of its availability, the method of sponge biopsy offers the general practitioner an opportunity to play the principal part in the detection and diagnosis of several important types of early curable cancer."

SIGNIFICANCE OF RH-NEGATIVE BLOOD
(*Maternity Center Assoc. Briefs*)

Rh-negative blood is not a disease but is a bodily variation.

In 13% of all marriages the woman is Rh-negative and the husband is Rh-positive. It is among these couples that

Rh incompatibility arises.

Erythroblastosis in the baby arises in one of every 200 pregnancies at term, and one in every 26 pregnancies for the 13% of couples whose blood is incompatible.

Most Rh-negative women can have two or more babies before the antibodies in their blood are strong enough to destroy their babies' blood cells and cause erythroblastosis; so few Rh-negative mothers will ever have difficulty because most American families are small.

OBSTETRICS

H. J. LANGSTON, M.D., *Editor*, Danville, Va.

A 60-MINUTE CUTANEOUS PREGNANCY TEST

FOLLOWING is a description, with clinical evaluation, of a new test, called the "Q-Test," as supplied by a California teacher of obstetrics.¹

The colostrum which produced most reliable readings was that collected and pooled from primiparas in the 28th week of pregnancy.

The donor's nipples and the area around them which came into contact with the sterile glass breast cup were scrubbed with aseptic soap and then washed with ether. Each withdrawal was transferred to a sterile centrifuge tube.

Each colostrum specimen was centrifuged at 6,000 r.p.m. for 10 minutes and the fat component removed with a sterile swab. A minimum of five such treated specimens were then pooled and an equal amount of sterile normal saline added. To each 10 c.c. of this mixture 1/10 of 1:100 Merthiolate was added as a preservative. This formula was then kept constantly below 59° F.

Even with these precautions the colostrum when plated on agar consistently gave a growth of mixed staphylococcus. A minimum of 10 days' exposure to the preservative was then necessary before the formula was sterile to bacterial or mycotic growth.

Then it was transferred under aseptic conditions to sterile microdispensers, each exactly 1/50 c.c., and dispensing 1/70 c.c. (plus or minus 4/1000), which was determined to be the optimum dose.

The dispensers were then stored under refrigeration.

One-seventieth c.c. of the colostrum formula was injected into the superficial layers of the skin on the flexor aspect of the forearm. Readings were made in 15 and 60 minutes. The pregnant patients at the 15-min. reading would exhibit a pearly wheal somewhat increased in size and little or no erythema; at the 60-min. reading, all wheal and erythema had disappeared.

The nonpregnant patient at the 15-min. reading exhibited a marked increase in size of wheal, still pearly, and usually irregular erythema of 1 to 2 cm. At 60-min. the erythema had disappeared but the wheal remained visible and persisted for several hours.

1. Nino Ferrero, M.D., Pasadena, in *Amer. Jl. Obs. & Gynec.*, March.

It is of great help to circle the wheal immediately after the injection with pen or skin pencil.

The Q-Test proved reliable (95%) in 112 normal pregnant women, and more so (98%) in 116 nonpregnant women (including a patient six weeks postpartum who delivered prematurely at 28 weeks whose test was still indicative of pregnancy).

It appears that the total behavior of the reaction must be considered in the interpretation. In addition to the reaction of the wheal, the erythema and the time element as described herein, it was noted in this series that within five minutes following injection several nonpregnant patients reported a slight itching around the enlarging wheal, followed by a sensation of warmth as the erythema developed. The itching and erythema gradually subsided in one hour.

It will be welcome news that a reliable test for pregnancy can be made without rabbits and in one hour. Here's hoping the "Q-Test" will do all that is claimed for it.

SURGERY

W.M. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

INTRA-ARTERIAL TRANSFUSION: A LIFE-SAVING, BUT NEGLECTED PROCEDURE

INTRA-ARTERIAL transfusion is a procedure which has long been recognized as a most effective means of combatting acute hypotension, yet it is used relatively little in the average hospital. It is based upon sound physiological principles, and is supported by experimental and clinical experience. The brain, the kidneys, and the heart withstand poorly the anoxemia which accompanies hypotension and soon undergo irreversible changes. Thus its early correction is of utmost importance.

In acute hypotension, transfusion by vein is relatively ineffective due to the great capacity of the venous system and the sluggish state of the circulation. Blood which is administered by vein causes only slight increase in the circulation. At best, by such methods, the blood pressure is raised slowly.

In acute hypotension, there is an associated peripheral vasoconstriction. Blood administered under pressure by artery raises the blood pressure almost instantaneously. It is forced into the coronary artery with resultant contraction of the ventricles. It soon reaches the higher cerebral centers and the kidneys. Respiration and kidney function are resumed, provided irreversible changes have not occurred. Unless there is a continued loss of blood, the resuscitation is maintained.

In a series of well-controlled experiments, Peter B. Jones et al.¹ have made important observations on intra-arterial transfusion. The same effect can be obtained by the intra-arterial administration of

normal saline, but it is not sustained. Jones et al. have found that a pressure of 100 mg. of mercury is the most satisfactory level for administering the transfusion. They have described a simple apparatus consisting of readily available material.

Intra-arterial transfusion has been used effectively not only in severe hemorrhage, but also in shock accompanying acute coronary disease and cerebro-vascular accidents. A suitable apparatus should be available for immediate use in every hospital.

1. Jones, P. G., Davis, J. H., Hubay, C. A., and Holden, W. D., "Physiologic Mechanisms of Intra-arterial Transfusion," *Surgery*, Vol. 27, No. 2, 1950.

SURGICAL MAXIMS OF ELDRIDGE L. ELIASON

(From a Memoir by E. P. Pendergrass, in *Trans. of the College of Physicians of Philadelphia*, Feb.)

"A good surgeon is a good clinician who can operate."
"Accidents don't happen. Carelessness simply permits a natural occurrence."

"Be relaxed when delicacy of touch is needed."
"Don't cut until you know what it isn't."
"Any abdominal pain of over six hours' duration is surgical in 90% of the cases."
"If the clinical and laboratory findings don't agree, do the examination over again."

"Do a rectal examination and in 50% of the cases you won't need a consultant."

"Cathartics in acute abdomens kill more people than gunpowder except every 20 years."

"A pulse that 'leaves your fingers' quickly, oftentimes means that the patient will also leave you."

"When a patient knocks at the 'Pearly Gates' twice in one week, he usually gets through."

"Give me dependable boys and you can keep your brilliant ones."

"Be slow to promise, but having made a promise, keep it."

"A fracture should be evaluated by the result in life, limb function and contour—in that order."

"Treat the patient and not the film."
"A properly-reduced and properly-dressed fracture should give *increasing comfort*."

"Pressure pain over tissues ceases when necrosis occurs."
"Splint 'em where they lie."
"Walk 'em into union."

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

DO NOT LET PREPARATION TO DO BIG THINGS OCCUPY ALL OF YOUR TIME

WE TAR HEELS blow out our chest with pride when we hear someone in a far-away state praising our program for medical care. There is a danger, however, of making too much preparation and accomplishing too little.

Everyone far and near has heard of the North Carolina Medical Care Foundation, the North Carolina Good Health Program, the North Carolina health-minded governors and legislatures, North Carolina's two large Blue Cross Insurance Associations, and the five million dollars yearly

assessed the people in North Carolina, in addition to the many dollars given by the private organizations in order that its citizens might have more medical care at a more reasonable rate. From the propaganda emanating from the leaders, one would think that a hospital bed, a special nurse and a family doctor was available at all times for every citizen in the state, regardless of his financial condition, creed or color. This is not the case. If this statement is doubted, make an effort to get a doctor to make a home call Saturday afternoon or after 11 o'clock at night. Very recently the author spent some several hours trying to get a general practitioner to visit a sick man in his home. I was unable to do so and finally the next day, I, a general surgeon, had to make the call.

There is no doubt but that the leadership in our state is far-sighted and have a clear mind for the future, but it could be possible that they are near-sighted and have a fogged mind for the present. It behooves those of us who are followers of these leaders to help clear up the horizon and accomplish something for today. By way of analogy, let me call to your mind the statement of one committeeman who was appointed by the governor to locate the Medical School of the University of North Carolina. This was, that he, the committeeman, was in favor of locating the Medical School in the town of Chapel Hill because he was looking forward to a long-range program and his explanation of the long-range program was that Chapel Hill would grow big enough to support a medical school. The author agrees with him thoroughly providing his long-range is long enough, but how many decades this will take none of us knows. There are cities in the state already sufficiently large to furnish clinical material but the far-sighted leaders were too near-sighted to recognize this fact.

We have been talking in North Carolina about nursing education and there have been bills in the Legislature, programs on the radio, and live propaganda in the form of young student nurses, campaigning the state, and we have made a big howl about what we were preparing to do about furnishing sufficient nursing service for our people. As of this minute, nurses are scarcer, less regular in attendance to their professional duties and I am reliably informed that every institution is compromising its position in nursing service due to the inability to get good, well-trained reliable R. N.'s. Why spend so much time promising what we are going to do and yet spend so little time in actually doing it. There are less nurses in training schools and less training schools today in North Carolina than there were 15 years ago.

We have talked about and advertised our great scheme of building a hospital at every county seat. We have today built less than ten per cent of the

hospitals that the people have been led to expect they would have. Not long ago the North Carolina Good Health Program and the Medical Care Commission and the Federal Government had contributed to seven hospitals and the Federal Government, due to the emergency in Korea, has ceased assisting the erection of any hospitals. Even if we had the hospitals we could not staff them and the Nursing Educational Council's emphasis is not upon graduating working R. N.'s, but upon graduating "Professional nurses," whose status is not plain. It would be far better if the doctors and the nurses would spend more time graduating general practitioners and general duty R.N.'s, and less time making preparation to graduate teachers and researchers in the profession.

We are making grand and glorious preparations for a great medical school at Chapel Hill and no one is prouder than the author, but he hangs his head in shame when he realizes that he and his kind are only making grand and glorious preparations instead of grand and glorious progress in graduating sufficient number of doctors to treat the ill of our state. I have been informed that the freshman class was not at all substantially increased over what it had been before the five million dollars a year appropriation was made for better medical care. It is heartening to note that the authorities in the dental school were not so farsighted but that they could see the present evil of the shortage of dentists in the state. They are teaching their students to become dentists in temporary, economical Quonset huts. For the first time in my life I almost wish I were a dentist. I most heartily commend the leaders in the dental profession for the great progress that they have made in the few months in which they have been privileged to operate a dental school as a part of the University of North Carolina. May I and my kind soon learn from them not to spend all of our time in making preparations to do big things in the far distant future and neglect to do the important things of the present day.

UROLOGY

NEPHROLITHIASIS FAVORED BY STAYING IN BED AND BY INJUDICIOUS MEDICATION

CERTAIN wholesome foods and useful drugs, injudiciously taken, and particularly when combined with prolonged recumbency, are apt to cause the formation of stones in the kidneys. The prevention and the cure are presented by a Dallas urologist.¹

It is not unusual for individuals who have to remain in bed for long periods of time to develop kidney stones due primarily to stasis, dehydration,

and later infection. This is all the more prevalent in individuals who have had fractures or some other type of bone injury. A 12-year-old boy with multiple fractures developed hematuria; it was found that a large quantity of sulfanilamide had been sprinkled in his wound when an open reduction was done. X-ray examination of the kidneys was negative. He was put on alkaline therapy and forced fluids.

A month later, asked to see him again because of hematuria, x-ray exam. revealed complete casts of both renal pelvis and calices due to stone. It was found that he had been getting large quantities of milk and vitamin D and his alkaline therapy had not been discontinued—an ideal situation, even without bony injury, to cause stone formation. Vitamin D was discontinued, milk was stricken from his diet, and he was put on an acid-ash diet, given vitamin A and large quantities of water. *Within six weeks his stones had all disintegrated and been passed.*

More recently, asked to see an 18-year-old boy who had had a spinal fusion and bone graft six weeks previously, because of hematuria with pain in his left side, x-ray examination showed a stag-horn calculus in the left kidney. He was put on vitamin A, estrogens, aluminum hydroxide and acid-ash diet, with a minimum intake of 3,000 c.c. of fluids a day. Within a month all the stones had disintegrated and been passed, except for one fragment which lodged in the terminal ureter and was readily extracted.

These two cases are readily explained on the basis of: 1. Bony injury calls forth a mobilization of calcium for its repair. 2. High-calcium and -phosphorus diet (mostly in the form of an excess of milk) causes an excessive excretion of calcium in the urine. 3. The vitamin D mobilizes still more calcium. 4. Restriction of fluids causes concentration of calcium in the urine. 5. Recumbency and the alkaline-ash (anti-constipation) diet causes precipitation of calcium salts from the urine. 6. Immobilization contributes a great deal to stasis.

The wonder that occurs to us is not why these patients formed renal calculi, but why so many others do not.

J. Vincent Vermaeten, Dallas, Tex., in *Jour. Okla. Med. Assn.*, May.

SUBDERMAL ADMINISTRATION OF MERCURIAL DIURETICS

G. J. Warshaw et al., New York, in *N. A. M. A.*, April 7th

In a recent study on the management of patients with congestive failure, to whom we gave a dose of the diuretic daily, meralluride was given by the IM route exclusively. When the injection was made deep into the buttock muscles, pain was usually negligible and signs of local irritation were rare. In some instances the technic was taught to the patient or a member of the family. The patient sometimes returned with fibrous nodules which had not followed injections by the physician.

Report had been made the use of meralluride subcu-

taneously with a needle, 25 gage, $\frac{1}{2}$ to $\frac{3}{4}$ in. free from local reactions.

Our own use of a long needle for IM injection often had caused subcutaneous fibrous nodules. It occurred to us that the difference in results might be due to the fact that the very short needle deposited the drug in the subdermal tissue relatively free of fat.

Observations were made of the local reactions to 1,132 subdermal meralluride injections in 200 cardiac patients with congestive failure; doses 0.5 to 2.5 c.c. Three out of every four patients tolerate these injections either without any local reaction or without reactions of any consequence. In the fourth patient pain, ecchymosis, fibrous nodules or a combination of these at the site of injection sufficient to threaten continuation of the treatment.

The subdermal use of meralluride supplies an important need in the treatment of congestive failure. It affords a satisfactory method for self administration, since patients master the technic of subdermal injection much more readily than that of the deep IM injection.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

CHLOROMYCETIN has proved effective in: *Pertussis* in an infant seven months old after a 4-day course of sulfadimine and penicillin was "without benefit."

—*Lancet*, Mar. 18th, 1950.

Influenza meningitis in five infants, six to 24 months old, after streptomycin and sulfadiazine had failed in one case.

—*Jl. Pediat.*, July, 1950.

Rocky Mountain spotted fever in two children, three and five years old.

—*Jl. Pediat.*, Aug., 1949.

Infant diarrhea in 41 of 44 infants. The authors describe C. as a "remarkable" therapeutic agent in severe infant diarrhea due to various microorganisms.

—*Presse med.*, April 23d, 1950.

Respiratory infections in 41 children, 6 months to 18 years old. The authors observed no toxic manifestations and believe "the therapeutic agent of choice in acute respiratory infections of undetermined origin, in the absence of an influenza epidemic or a common cold, should be C."

—*Jl. Pediat.*, July, 1950.

Pertussis in a girl $5\frac{1}{2}$ months old. C. 250 mg. q. 4 h. administered in powder through an esophageal catheter $\frac{1}{2}$ h. before each 4-four feeding, 7 doses, improvement within 12 h. of first dose. Recovery proceeded uneventfully. It was observed that "the effect of chloromycetin on the whooping-cough was dramatic."

—*Lancet*, Sept. 24th, 1949.

Rocky Mountain spotted fever in 2 children, 4 and 11 years old. In the 4-year-old girl, 50 mg. per kg. body weight by stomach tube after she had lost consciousness. In next five days 250 mg. q. 3 hr., fever remitted and the patient regained consciousness; and the other, the 11-year-old admitted with a t. of 104. C. on same dosage schedule within

48 h. t. had subsided; uneventful recovery followed.

—Jl. Med. Assn. Ala., Dec., 1949.

Mumps in a 10-year-old child and in three adults. C. discontinued in the fourth patient because of sensitivity reactions after 7 Gm. Pain disappeared on the fifth day of illness, the third day following institution of C. therapy.

—Lancet, July 8th, 1950.

Pertussis, severe, in a girl two years old, complicated by bronchopneumonia. C. 50 mg. orally q. 4 h., with antipertussis serum and dihydrostreptomycin. Two days later t. was normal, cough much less, patient continued to improve steadily.

—Jour. Med. Assn. Ala., May, 1950.

Chronic & acute brucellosis in 46 children and adults, 8 to 74 years old. In this series of 46 patients, at least 40 positive active brucellosis. C. favorably influenced course of chronic and acute manifestations of the disease.

—Arch. Med. de San Lorenzo, Jan., 1950.

Tularemia in a father and his 10-year-old son, both laboratory-confirmed tularemia, relieved all signs and symptoms after 24 h. of C. Home after 3 d. hosp.

—Presse med., Feb. 4th, 1950.

Pertussis in 25 children in Cairo, Egypt, treated with C. Cough rapidly assumed a mild bronchitis character; complete relief after one to four weeks.

—Lancet, Aug. 19th, 1950.

Infectious mononucleosis in an 8-year-old boy with t. 102, acutely ill with oral lesions and severely inflamed tonsils and pharynx. C. 250 mg. q. 6 h. for 3 days, begun on the 14th day of illness, after penicillin and another antibiotic had failed and the patient had become too ill to sit up in bed. Day after starting C. t. normal; discharged home, but soon relapsed and was readmitted acutely ill. C in the same dosage for seven days. Again improved within a day and on the ninth hospital days was returned home.

—Jl. Pediat., Nov., 1949.

Pertussis in 5 infants, 8 to 26 weeks old, severely ill, responded promptly to treatment with C. 250 mg. initially, 125 mg. q. 6 h. 7 d., then q. 12 h. 7 d. Improvement in 12 h. in 4 patients, in 24 h. in 1, recovery complete in a few days. Administration easy by opening Kapsels and giving loose powder in a teaspoon with currant juice a few min. before the feeding. Replacement feeding and C. were given to make up loss from cough-induced vomiting. Immediate improvement in general condition in all the cases, followed by rapid recovery.

—Lancet, Mar. 4th, 1950.

POSTVACCINAL ENCEPHALITIS in a 1-year-old boy with convulsions, fever and vomiting hosp. 9 days after vac. Penicillin and sulfadiazine were given without results, and on the 2d day C. started: 250 mg. q. 4 h., 5 i.d., for two days due to misunder-

standing, then 100 mg. on same schedule for a total dosage of 3.6 Gm. Sulfadiazine was discontinued but, to prevent secondary infection, penicillin was continued, 400,000 units b.i.d. T. normal in 36 h. and by the 5th hospital day all symptoms disappeared. Discharged 6th hosp. d., with 1200 mg. C. in cap. to be taken at home. Child normal one month later.

—Jour. Med. Assn. Ga., June, 1950.

Rocky Mountain spotted fever in nine children, 3 to 15 years old. Duration of fever ave. 4.4 days after the 1st dose of C. Symptoms relieved at the end of the 1st day. The authors found C. "highly efficacious," response "uniformly favorable," regardless of when therapy was begun.

—Amer. Jl. Med., Sept., 1950.

Pertussis in 50 infants & children two months to nine years old. Fever disappeared second day, number of paroxysms decreased on the third, disappeared after 3 to 6 days of treatment. C. was given orally, rectally, IV (dissolved in propylene glycol). Results of IV and rectal dosage were equal to oral.

—Jl. A. M. A., Dec. 31st, 1949.

Rocky Mountain spotted fever in 10 children 2 to 16 years old. Definite relief 2d day, by 3d day most were convalescent; 75 mg. per Kg. body weight in 2 or 3 parts at 1-hour intervals, followed by 250 mg. q. 3 h. Results "indicate C. is an effective therapeutic agent in this disease."

—Ann. Int. Med., Oct., 1948.

Meningitis in 15 children, six weeks to nine years old. All successfully treated with C. H. influenzae type B. suggested dosage 50 to 100 mg. per Kg. bodyweight initially, followed by 250 mg. regardless of weight q. 8 h. thereafter for five days or longer. No toxic effects.

—Jl. A. M. A., Aug. 19th, 1950.

Bacterial pneumonia in 33 infants and children, 4 months to 12 years old. Response good in 25, fair in 7 and poor in 1—improved only after surgical drainage. "C. may be regarded as an effective drug in the therapy of bacterial pneumonia."

—New Eng. Jl. of Med., Nov. 10th, 1949.

Gastroenteritis in 15 infants, one to 8 months old. Diarrhea was arrested in all and stool cultures clear of E. coli in 2 to 8 days, in all but one patient who remained a carrier. One other infant subsequently died.

—Brit. Md. Jl., Dec. 31st, 1949.

Shigella enteritis in 35 children, 3 months to 7 years old. Stool cultures from 33 of the 35 were neg. after 12 to 36 h. of C., 1 neg. after 48 h., other after 6 days—relapse eight days after discharge and second course of C. 500 mg. q. 4 h. for 10 days, brought uneventful recovery.

—Jl. A. M. A., Aug. 26th, 1950.

Pertussis in nine infants and children, 20 days to 3 years old. C. used in t. 9 of 18 children, 20

days to 3 years old, with pertussis. Bronchopneumonia in 4, 50 mg. per Kg. daily in 4 divided doses over 5 to 8 days. Infants responded best. The bronchopneumonia cleared in a few days.

—*Minerva med.*, 41:1 (No. 4), 1950.

Pertussis in 12 infants and children, 9 months to 8 years old. C. was uniformly successful.

Bol. Soc. Boliviana Pediat., Mar., 1950.

In *typhoid* and *paratyphoid*, chloromycetin has established itself as the drug of the greatest usefulness. This fact is attested by a great number of abstracted reports in this grouping.

HISTORIC MEDICINE

MEDICAL ASPECTS OF ATOMIC ENERGY

ALL OF US have long desired to know about the medical aspects of atomic energy. Most of us have heard learned disquisitions, read learned articles—even monographs—on the subject.

This editor "Evermore came out at the same door wherein [he] went." But Dr. Grigsby's article¹ is something else again. It is evident that she knows what she is writing about, and that she knows how to impart her knowledge. Much of what she says is quoted verbatim, without the use of the formal marks. The editor gives and his readers will give credit and thanks to Dr. Grigsby.

Present knowledge of the atomic nucleus and its properties dates from the discovery of radioactivity by Becquerel in 1896 and the isolation of radium by the Curies in 1898. Rutherford and Soddy showed in 1902 that the phenomena of radioactivity could not be explained by the assumption that the atoms of elements like uranium and radium were unstable and continually breaking down into other elements. In 1905, Einstein developed a theory of relativity which involved the concept that under certain conditions matter could be changed into energy and energy into matter. Chadwick in 1932 discovered the neutron and in the same year Cockcroft and Walton performed the first successful atom-smashing with laboratory apparatus. Urey in 1932 discovered a heavy form of hydrogen called "deuterium." Fermi in 1935 found a way to slow down neutrons so that the nucleus of the atom could attract them. These discoveries and numerous others led to fission of the atom and the subsequent production of large amounts of radioactive isotopes. Practical utility of the energy stored in the nuclei of atoms was made possible by the discovery of processes for nuclear fission and the chain reaction.

The atom consists of a central nucleus, in which the greater mass of the atom is concentrated, and

¹ Margaret E. Grigsby, Howard University, in *Jl. National Acad. Amer.*, Mar.

surrounding electrons. The nucleus is composed of one or more positively-charged particles called protons. For each proton in the nucleus, a minute negatively-charged electron revolves in a fixed orbit about the nucleus. The number and arrangement of these electrons determine all the properties of the atom except its atomic weight and radioactivity.

Hydrogen, the simplest element, has one proton and one electron. Helium has two protons and two electrons, and so on, as the atomic weights increase. When a proton and an electron become fused a new particle, without electric charge, called a neutron is produced. Uranium has 92 protons, 92 electrons and 146 neutrons.

When one or more neutrons are introduced into the nucleus of an element the element remains the same chemically, but is increased in atomic weight. Such elements are called isotopes of the pure forms. These isotopes are unstable. In their process of decomposition they release energy in the form of alpha, beta, and gamma rays. This phenomenon is known as radioactivity. Because the radioactive isotopes of most elements will behave in the body exactly as the normal forms of the elements, the isotopes may be introduced into a living body and their metabolic processing followed by means of a Geiger-counter or other instrument which will detect radioactivity.

The use of radio-isotopes greatly enhances the sensitivity of methods of detection and estimation of substances in the body. This is a distinct advantage in the study of such problems as the metabolism of toxic metals or drugs, where an amount of the material sufficient to permit chemical detection in specific tissue may cause serious change or even death.

Radioactivity also permits detection of an element at a distance so that samples need not be specially purified, nor even removed from the experimental animal. It may also permit a continuous examination of the accumulation of material in an organ without interfering in any way with its normal functioning. The use of radioactive tracers supplements the direct chemical approach to the problems of metabolism and opens new possibilities for analyzing their most intimate details.

It was not until the development of the cyclotron by E. Lawrence in 1931 and the discovery of artificial radioactivity by Curie and Joliot in 1933 that radio-isotopes of the common elements became available, providing a new and powerful method of research for the biologist.

The radio-active isotopes from the atomic piles may be of great value in medical treatment; they also present the gravest industrial hazard ever encountered in medicine. The chain reaction pile and the atomic bomb produce radioactive materials many thousand times as potent as all the radium

ever isolated and give off radiations undreamed of by radiologists. Despite the fact that thousands of individuals were involved, that the problems were of quite unique nature and that the maintenance of absolute secrecy was necessary, so well were the safety conditions maintained that only one casualty occurred from the special hazards of the work—this due to flagrant disregard of safety regulations.

The safeguards against the hazards of radioactivity must be considered for the protection of personnel on the site where the work is being done, as well as the community surrounding it. The primary concern in both cases is with the prevention of damage to human beings from immediate and delayed effects. Prevention of exposure is the only safeguard since there is no known means of reversing the biologic effects of dangerous amounts of radiation.

It has been postulated that radiation may produce insidious chromosome and gene mutations which may affect progeny for several generations. This is an even stronger plea for sane and safe handling of radio-active materials.

Of the total number of casualties—120,000 in Hiroshima and 65,000 in Nagasaki—one-sixth were killed outright or died under circumstances in which no help was possible. A somewhat smaller group escaped both mechanical injuries and burns, but received a dose of gamma rays sufficient to make them ill one to five weeks later.

At the moment of explosion the atomic bomb gives off intensely almost the entire spectrum of electromagnetic radiation including visible light. Radiant heat and ultraviolet light are also given off. Individuals who were ten miles away from experimental atomic bombs felt a wave of fairly intense heat on exposed parts of the body. How much ultraviolet light has to do with the late lesions remains to be seen. Evidence indicates that this is due to a nearly instantaneous, very intense wave of infra-red radiation or radiant heat.

It appeared that the majority experienced nausea and vomiting of brief duration several hours after the bombing.

In those who received the largest doses of gamma rays, fever and diarrhea usually came on the day after the bombing. Purpura appeared four to seven days later and the patient failed rapidly and died suddenly. The blood showed a pronounced leucopenia or total lack of leucocytes and platelets. Autopsy findings were those of moderate purpura hemorrhagica, with widespread petechiae and a hemorrhagic erosion of the mucosa of the gastrointestinal tract.

Symptoms developed seven to 28 days after explosion in those affected by gamma radiation.

Gastro-intestinal disturbances and destruction of

hematopoietic tissues were the major phenomena which endangered life.

Recent studies have shown that exposure to atomic and nuclear radiations often disturbed electrolyte, osmotic, and acid-base relationships; more intensive exposure destructive effect on vital enzyme systems, by direct action and by the release in the body of toxic metabolites, bringing on decrease in blood cells, hypotension, toxemia, anoxemia, and hypoxic states, hepatic damage and adrenal failure.

The therapeutic objectives in the management of patients with radiation injury are:

1. Maintenance of fluid and acid-base balance
2. Control of infectious processes
3. Combatting hemorrhagic tendency
4. Correction of anemia.

It is conceivable that in this country where plasma, electrolyte solutions, blood and antibiotics are available, a much lower mortality rate could be expected than was observed in Japan in the event of an atomic explosion.

ACUTE APPENICITIS

(Philip Thorek, Chicago, in *Rocky Mountain Med. J.*, April)

The "Two Question Test" suggests the diagnosis in well over 70% of cases of acute appendicitis. Q. 1. "Where was your pain when it started?" Q. 2. "Where does it hurt you now?"

In the majority of cases the patient neither vomits nor complains of nausea.

Constipation is the rule.

A high initial fever strongly argues against acute appendicitis.

Do not wait for fever. This rule does not apply to children, since they will have fever at the slightest provocation.

The pulse is seldom of great diagnostic value.

The patient usually does not appear to be seriously ill. No physical examination is complete without a rectal or a bidental examination—index finger in the vagina and middle finger in the rectum.

The dif. count is more helpful than the total; urinalysis necessary, but may mislead.

Over 70 per cent of appendices normally lie retroceccally.

VITAMIN K₁ IN COAGULATION FAILURE INDUCED BY DICUMAROL

(B. N. Fuller & N. W. Barker, Rochester, in *Minn. Med.*, April)

Our experience with vitamin K₁ indicates that it is a satisfactory dicumarol antagonist when given in a single oral dose of 500 mg. Vitamin K₁ appears to exert a more rapid and more nearly complete action than meadionine. No toxic or untoward effects were observed in any of our patients following the use of vitamin K₁. Watching for a "rebound phenomenon," particularly in patients developing renal failure, is advisable.

KOREAN WAR DEATHS caused a sharp rise in mortality of American males of military age in the first 3 months of 1951, according to Metropolitan Life Insurance Company statisticians. Among the company's male industrial policyholders of ages 20-24 the mortality rate was 50 per cent higher than it was for the first quarter of 1950.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

EXTERNAL EVIDENCES OF INTERNAL TENSION

TODAY, on every hand, reactions to emotional disturbances are proving grossly alarming. Among the 7,000,000 cases of mental and emotional illness within this country today, no more than 20 per cent give evidence of brain lesions, the remainder being neurotics (or psychoneurotics), ill because of unhealthy emotions, their happiness and productivity seriously impaired.

When mental energy reaches the level of consciousness, it is *emotion*; the energy discharge is *feeling*. Psychopathology and psychiatry recognize the powerful role played by emotions in every human being. Emotions, energy manifestations flowing out of instincts, may be conscious or unconscious. Fear may appear in the form of anxiety; hate, in the form of hostility; jealousy, in the form of distrust. Persistent despair, hopelessness, remorse and unhappiness are other emotions which can prove disastrous. Like veritable poisons, these psychic impulses can be assimilated by the body and eventually produce malfunction of the glands, disorders of nutrition and many other untoward effects. Sometimes bodily discomforts are precipitated by sudden bereavements, financial and marital troubles and shock. Emotional tensions produce dyspnea, abdominal pain and distention, nausea, muscular disturbance, vomiting, constipation, diarrhea, "colitis" and genito-urinary troubles. Emotional disturbances terminate oftentimes in neuroses (or psychoneuroses), due in general to sex complications, moral conflicts, selfishness, envy, jealousy, fatigue and other emotional storms.

Every individual needs to live sanely, striving toward maturity of his emotions. Fear, worry, discouragement and depression can afflict a paralyzing effect upon a nation. Intellectual judgment is impaired by tension. Fear begets worry; worry begets inefficiency.

Mental health has its roots in infancy. If a wholesome program of living were provided for today's children, many emotional disturbances of tomorrow's adults would be averted. Though in the initial stage he is unable to get all his selfish needs supplied, he soon begins to associate his mother with food, protection and love. It is she who teaches him that some of his instincts must be restrained, that certain habits must be formed.

As the child develops his reactions to stimuli characteristic of each stage will largely determine the unfolding of his personality, as well as the future good health or ill health of his mind. The

roles played by parents, school, church, courts, youth group leaders and other agencies are highly significant; but the influence of home and mother is paramount. What a plea is found here for parents to, by precept and example and by tactful handling, weave into the warp and woof of childhood, designs of stability, truth and enduring beauty, conditioned to the exigencies of life and living by having for his very own that rare trait of character, emotional maturity.

Many and difficult are the problems of the undisciplined child who evidences shyness, jealousy, negativism, self-pity, fear and feelings of inferiority. Such an individual may actually give expression to his emotional problems by vomiting, tics, stammering, hysteria, or other neurosis. When parents earnestly apply the teachings of mental hygiene, many warped personalities, psychological traumas and serious deprivations will be avoided among our adolescent and adult population.

Man has learned at a glance to recognize emotions and moods such as the mirth of jolly old Saint Nicholas, the pensiveness of Rodin's *Thinker*, the inscrutability of *Mona Lisa*, the soberness of Whistler's *Mother*, the deception of Lady Macbeth, the mad raving of King Saul and the uncontrolled rage of Adolf Hitler.

Wholesome emotions, controlled, make life worth living, but uncontrolled emotions are destructive to mind and body.

NOT ALL DIABETIC GANGRENE IS DUE TO LACK OF BLOOD SUPPLY

(Meyer Naide, in *Trans. Col. of Physicians of Philadelphia*, Feb.)

Necrotic lesions of the toes and feet of patients with diabetes mellitus are not all due to ischemia. Twenty to 30% of foot lesions in diabetics are on a neuropathic basis. Because the prognosis and treatment of these two types of lesions differs so greatly their differentiation becomes important. The neuropathic lesions are not the result of ischemia to nerves. An important point in differentiating the two types of necrosis is the absence of bone destruction in the ischemic toe. Destruction of bone requires some blood flowing through it to carry away the products of bone necrosis. The treatment of these two conditions differs in important respects.

ANTACIDS AND AUREOMYCIN

(R. Greenspan et al, Chicago, in *Amer. Jl. Diges. Dis.*, Jan.)

Thirty ml. of aluminum hydroxide gel, administered 15 minutes before a single oral dose of aureomycin, markedly depressed the serum aureomycin levels in 10 subjects. The simultaneous use of these two drugs is contraindicated. Thirty ml. of carmethine given in the same manner had no demonstrable effect on the aureomycin level of the serum, and effectively diminished the gastrointestinal disturbances frequently occurring with aureomycin therapy.

Aphojel adsorbs aureomycin in vitro. It does not destroy or inactivate the latter, but it seems to hold it firmly, not permitting intestinal absorption. Carmethine does not adsorb aureomycin in vitro, and does not interfere with intestinal absorption.

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

ANOTHER CONCLUSIVE ARGUMENT FOR PAYING FOR YOUR OWN MEDICAL AND HOSPITAL CARE

THIS JOURNAL has presented over and over again irrefutable proof that, with the exception of obstetrical care, you can not get more than 60 cents' worth of medical, surgical and hospital care for a dollar spent with an insurance organization of any kind. The so-called non-profit organizations report overhead expense of 20 per cent. It is plain to anyone, who knows anything of human nature and looks about him, that a couple engaged in reproduction can get a dollar from the common fund for each dime put in, and this over many years; and everybody knows that a lot of folks having hospital insurance demand hospital care in illnesses that would never bring a hospital to mind, did they not have such insurance. These two items will take another 20 cents of your insurance premium dollar.

An official of a company selling this kind of insurance¹ supplies, by inadvertence, proof that the premium dollar of the average purchaser of such insurance is further seriously clipped.

There follows a digest of his testimony.

"Serious," as used here, is related entirely to the financial loss resulting from a condition which some physician is ready to treat. Thus, the hypochondriac who squanders his wealth in pursuit of illusory health is suffering from serious illness as much as is the man with a brain tumor, the removal of which costs a fortune. The man with the injured back may spend a fortune for medical care just in order to be able to stay on the job. The man who has had to spend a fortune for medical care on his wife, or an unfortunate child, is suffering as much from serious illness as the one who is personally ill.

A physician's office used to be a rather simple establishment, a few sturdy chairs, a table loaded with magazines and an assortment of practical enamelware. Now it consists of a restful waiting room, psychologically appointed, and a series of other rooms filled with awesome gadgets and monsters of stainless steel, chrome, glass and colored lights. The transfer has cost the patient a lot of money. Yet he now demands it. And the more money the patient has, the more wizardry he demands.

What is true of physician's equipment is also true of clinics and hospitals to an even higher degree.

This leads to the third and perhaps the most delicate problem of all, instability of medical fees. These fees are generally based on two considerations: first, the amount of services necessary to

¹ A. M. Wilson, Manager Liberty Mutual Insurance Company, Boston, in *Jl. Missouri Med. Assn.*, May.

effect the cure and, second, the ability of the individual to pay. Recently has been added the factor of degree of specialization needed to treat effectively a specific condition. In no other private field does one person have to pay more for a given service than the other merely by reason of the fact that he may have more money than the other.

In certain instances physicians overestimate a man's economic worth, fees are charged which cause a hardship on the patient.

With the advancements made in medical science the costs of becoming and being a specialist have been made higher. He must charge higher fees in order to carry on as a specialist. The greater the ability of the patient to pay, the more specialization the patient will demand.

In a group of 2,500 men earning \$5,000 a year and over, 55 had serious illnesses within one year. The average expense incurred was more than \$1,200. Four of them before they get through will run expenses to \$5,000. Similarly, on the wives of these same men during a period of seven months, one out of 15 insured incurred medical expense in excess of \$700. One man incurred medical expense of \$7,800 on his wife during that one period.

We incorporate in our policies two provisions: The charges must be reasonable; the service must be necessary.

So any neurotic or any of that horde always "down in the back," can purchase this insurance at the same price others pay, and get "a fortune" spent on him or her out of these premiums!

It is worse than I knew it to be, and 60 cents' worth for your dollar is certainly bad enough.

SOME BIOLOGICAL ASPECTS OF MEDICINE

As recently as the 17th century the human population numbered about 400 million. It is now over five times that number. According to a conservative estimate, when the white men arrived in North America there were a million native Indians above the Rio Grande. The population of horned animals ran into thousands of millions. Man has been in small minority throughout the long ages as is attested by the scarcity of his fossil remains; but, in the past three centuries, there has been a five-fold increase in the population of the human race from 400 million to 2,125 million.

The population of India is 432 million and is increasing at the rate of some six million per year. The population of China is some 500 million; increasing at the present rate, it would double in 50 years; but this figure is possible only with outside aid, for the Chinese are in a state of perpetual hunger. It is believed that 100 million of them have died of famine in the last century. Japan's

increase in population is 2,000,000 per year. Our country's 150,000,000 is increasing at a rate of 1,800,000 per year.

Thanks to the proficiency and foresight of animal husbandry, farm animals are seldom allowed to overtax the capacity of the land to give them reasonable maintenance. Not so for human husbandry! Man has left the management of human population to the devices of malnutrition, famine, pestilence, and war. Resources essential to the well-being of man are decreasing at appalling rates while the number of individuals who depend upon these diminishing resources is rapidly increasing.

Western civilization is able to carry a larger population per square mile, due to improved scientific methods; yet it is the opinion of profound students of populations that increasing numbers seriously lower the standard of living. An optimistic view expressed by Moulton, of the Brookings Institution, holds that the United States can support 300,000,000 at present standards of living. One may ask: is it the goal of man to attain the maximum crowding of human beings permitted by nutritional requirements?

John Stuart Mill said a hundred years ago: "The density of population necessary to enable mankind to obtain in the greatest degree all of the advantages both of coöperation and of social intercourse has, in all the most populous countries, been attained. A population may be too crowded, though all be amply supplied with food and raiment. . . . It is not good for man to be kept perforce at all times in the presence of his species. A world from which solitude is extirpated is a very poor ideal."

A human being or a society of human beings fails to notice discomforts of living if they develop slowly. Adaptation to slowly occurring changes acts as a sedative, and by that token could become a hazard to a nation, as well as to an individual.

In many parts of the world doctors, through medical care and improved sanitation, are responsible for more millions living more years in increasing misery. They have been primarily responsible for making Puerto Rico, for example, one of the most miserable areas on the face of the earth, by expanding the population beyond all possible bounds of decent subsistence. . . . They set the stage for disaster; then, like Pilate, they wash their hands of the consequences. . . . The greatest tragedy that China could suffer at the present time would be a reduction in her death rate." (Vogt).

Conditions in India, like those of China, can no longer be remedied by medicine. The Indian Government, however, continues to send educators abroad to keep abreast of the progress of medicine.

Disease is no longer to be feared. Increasing

populations, dwindling resources, increasing capacity for exploitation, greater ingenuity for destructive waste in modern warfare—all products of man—now constitute the major threats to society. Until they are conquered, the future of man will remain insecure, regardless of the perfection of the science of medicine.

The dangers of increasing population are realized, but no concerted warning is raised against the folly of excessive population, or of excessive exploitation of our topsoil to support this population. The old adage that an ounce of prevention is worth a pound of cure seems to have been forgotten.

Economics is, as defined by Webster, "The science that investigates conditions and laws affecting production, distribution and consumption of wealth or means of satisfying human desires." Closer adherence to the definition of economics would go far to prevent further cheapening of life to levels of food balance in animal husbandry.

Populations pose other problems of social organizations which increase in complexity out of all proportion to increase in numbers. So great is the expansion of government that its cost is approaching staggering proportions, in which nonproductive workers compete in ever-increasing numbers for worldly goods and threaten to undermine the welfare of society.

Medicine must work in closest coöperation with all sciences upon which the welfare of man depends—biology, anthropology, sociology, economics, law, agriculture, chemistry and physics.

Before man was "civilized" he fought to live, but now that he is "civilized" he lives primarily to fight. How can mankind, steeped in such philosophy, possibly survive? How long can either material or spiritual resources stand the strain?

Few possess the capacity of clear thought. We of the medical profession, conversant with the fallibility of the mind, are in a better position than most to judge whether our decisions are based on logic and syllogism, or on feeling, emotion and prejudice. These critical times call for new leadership, if civilization worthy of the name is to survive. The medical profession possesses greater potential influence over the destiny of man than that of any other profession. The greater numbers of the physician, his presence in all communities, his intimacy of contacts, give him endless opportunities.

But he must take the Oath of Hippocrates to mankind as conscientiously as he takes the Oath of Hippocrates to the individual.

There is little need for addition or comment.

I used to talk with Dr. J. K. Hall and with Dr. Cyrus Thompson about the utter futility as well as the folly of the planning to have everybody live

to be a hundred. There is no reason whatever to believe that there will ever be any material increase in the number of humans to live beyond 80 and if, by any miracle the average could be brought to a hundred, it would inevitably doom the human race to extinction.

Sir James MacKenzie said the only reason our attempts to reduce high blood pressure do not kill our patients is that they fail to reduce it.

THE DIFFICULT DIAGNOSIS OF EARLY GASTRIC CANCER

THE ENTHUSIASM of individuals, groups and organizations with both scientific and lay interest in cancer, says Lawrence,¹ sometimes makes it difficult to maintain sensible thinking about the problems of this disease. Some part of what he says further helps toward sensible management.

It has been reported that there is a higher incidence of cancer of the stomach in the northern United States than in the southern. Further studies reveal that the same group of southern states that reports a low incidence of gastric cancer also reports a low ratio of physicians to the population as a whole, thus intimating that the true explanation is in differences in availability of diagnostic facilities.

Of the 12 most common causes of dyspepsia, carcinoma of the stomach ranks no higher than tenth. This realization places a doctor in a difficult position when a patient in an age group where gastric cancer is common comes to him complaining of vague, indefinite abdominal difficulty. Shall the physician immediately start him through a series of diagnostic tests, including a gastrointestinal series that may cost \$100.00 or more, realizing that none of the tests may be positive; or shall he treat the patient symptomatically, thus risking losing an opportunity to make a diagnosis of early curable cancer? The question is not easily answered. Some carcinomas of the stomach cause no symptoms until they are in the incurable stage.

A reasonable plan of management of a patient with either dyspepsia alone, or with suspected gastric cancer is as follows: a stool examination for occult blood after a three-day period on a meat-free diet should be done, as well as a gastric analysis and a complete blood count. If stool is positive for blood or the gastric acidity is abnormally low, then a complete GI series should be requested. Gastroscopy and a cytological examination of the gastric contents for malignant cells both can be employed where the diagnostic problem is complicated.

Every patient with a suspected gastric carcinoma should be operated upon unless distant metastases

¹ E. A. Lawrence, Indianapolis, in *Jl. Indiana Med. Assn.*, April.

are proven; and every carcinoma found at operation should be resected if it is technically possible to do so.

Gastric polyps are premalignant lesions. Gastric carcinoma is so frequently associated with pernicious anemia that p. a. may also be considered to be premalignant.

The prognosis for a patient who has had a successful gastrectomy for early carcinoma is excellent.

The intimation in the second paragraph is shorn of its force by the fact that the death rate is higher in the parts of the south (and of other sections) which have, than in those which have not, diagnostic facilities of great refinement.

The discussion in paragraph three is sensible and helpful, as, indeed, may be said of the rest of the article as abstracted. First the inexpensive tests which require only such equipment as is to be found in any doctor's office; later other means of investigation if results of inexpensive tests demand.

It is always a pleasure to me to quote a doctor in a position of authority, who has the sense and the honesty to consider the item of expense in managing the case of every patient just as he would consider it in his own case were he the patient. Such a doctor is a great rarity.

**COUNSEL YOUR PATIENTS WHO HAVE MULTIPLE SCLEROSIS
TO USE SPECIAL CARE AGAINST ACCIDENTS**

MEDICO-LEGAL BEARINGS

(A. E. Bennett, Berkeley, Calif., in *Jl. Nervous & Mental Disease*, Mar.)

The remitting, progressive nature, peculiar personality changes and spastic-ataxic symptoms of multiple sclerosis make patients unusually susceptible to accidents. Because of their generally euphoric outlook, they often, when almost incapacitated, manage to be about and carry on with occupations.

There is no scientific evidence either that multiple sclerosis is caused by trauma or that relapses are thereby exacerbated.

There is a definite accident-proneness in these patients, the result of the combined personality changes and neurologic handicaps.

The majority of patients having accidents predominantly minor and seeking compensation have won awards in compensation courts. There is great need to correct this error by requiring expert medical witnesses to be selected on a nonpartisan basis from a panel of qualified men; and by eliminating such minor factors as dependence on isolated textbook quotations and on the hypothetical question, with its biasing effect upon legal decisions.

FROM TIME IMMEMORIAL man has used some substances to help increase the joys of life or deaden the keen edge of sorrow. The monuments of the Egyptians show the use and abuse of wine; the oldest Chinese manuscripts contain records of drunkenness; and in the Vedas there are prayers to the Deity beseeching Him to descend to come and get drunk with his worshippers, that he might grant their requests and bestow favors upon them which, when sober, he would refuse. The Old Testament contains records of its widespread use, of consequent drunkenness, and warnings against the evils which follow alcoholic excess.

—Alexander Lambert, in *Osler's Modern Medicine* (1907)

ASAC



15%, by volume Alcohol

Each fl. oz. contains:

Sodium Salicylate, U. S. P. Powder.....	40 grains
Sodium Bromide, U. S. P. Granular.....	20 grains
Caffeine, U. S. P.	4 grains

ANALGESIC, ANTIPYRETIC AND SEDATIVE.

Average Dosage

Two to four teaspoonfuls in one to three ounces of water as prescribed by the physician

How Supplied

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MANUFACTURING PHARMACISTS

Charlotte, North Carolina

PRESIDENT'S PAGE

THREE has been a great deal said in recent years about the conservation of our natural resources. Reforestation has covered vast waste areas with growing trees. Soil erosion programs have prevented washing away of fertile land. Protective measures have filled our streams with fish and our forests with game.

There is one commodity, if I may call it such, which is more vital and essential than these, namely, medical service. Riches and natural resources are nothing if health is gone. During these days of wars and rumors of wars, when both the military and civilian demands are heavy upon the medical resources, thought should be given to the conservation of medical service.

Our hospitals are often crowded with patients who could be just as well, and at far less cost, taken care of at home, thereby making beds available to those for whom hospital care is required for best results. The use of blood should be conserved for those facing some serious surgical or medical condition, instead of being used to treat mild secondary anemia or low blood pressure. The supply of the high-priced antibiotics should not be used up in indiscriminate treatment of insignificant illnesses, such as colds, et cetera.

Due to the doctor shortage, the question continues to come up as to whether or not we are utilizing our medical teaching resources to the fullest extent. There should be no lowering of the standard of medical education, but more doctors should be produced. Dividing the year into four quarterly terms is being tried, not primarily or chiefly to graduate doctors a year younger, but to increase the output of doctors by 25 per cent.

On the national level, the taxpayers' money should be conserved by supporting medical research and training which offers some real promise of discovering something of value, instead of spending hundreds of thousands of dollars studying socialized medicine abroad, where many of its former zealous supports now admit it to be a failure. Particularly ironic is the fact that the "study of socialized medicine abroad was not planned or conducted to find out the facts, but to collect "evidence" to support the verdict already arrived at. Millions of dollars' worth of goods, paid for by our tax money, being poured into the hands of the British socialistic government are being used to foot the impossible expense of free medical care. The time has come for America to conserve its medical resources.

And a whole lot of us taxpayers are just as riled and indignant at the Duke and Duchess of Windsor making their "royal progresses," with their twenty big trunks full of the most costly clothing, enjoying \$100 a day hotel suites, and "never tipping less than a tenner"—all on our money; as we are having to pay for toupés, *two sets* of false teeth and *two* pairs of eyeglasses (monocles, too, presumably, with spats and silk hats), for each Socialist who asks for them.

—W. R. WALLACE

NEWS

VIRGINIA ACADEMY OF SCIENCE

Dr. Paul M. Patterson, of Hollins College, was installed as president for the coming year at the annual banquet at Lynchburg College the evening of May 11th. State Senator Lloyd C. Bird, of Richmond, is president-elect. Dr. Foley F. Smith, of Richmond, was re-elected secretary-treasurer, and Dr. E. C. L. Miller, of Medical College of Virginia, who served many years as secretary-treasurer, was elected to that position emeritus.

Winner of the J. Shelton Horsley award for the outstanding piece of research in Virginia was Dr. D. B. Duncan, of Virginia Polytechnic Institute. Dr. Duncan's paper on "A Significant Test for Differences Between Ranked Treatment in the Analysis of Variance," was presented in the section of statistics. The Horsley award, one of the highest honors in the State, was established by the academy in honor of Dr. Horsley, a former president, and father of the present president, Dr. Guy M. Horsley, of Richmond.

LYNCHBURG HOSPITAL CONVERTED

Guggenheim Memorial Hospital, a 25-bed obstetrical institution, has been converted for use in treating convalescent women and children with acute diseases, the obstetrical facilities available at Memorial, Virginia Baptist and Lynchburg General Hospitals having become ample for Lynchburg's needs. Mrs. D. W. Barr, who has been in charge of the unit, will continue in that capacity. The hospital was endowed by the late Mrs. Max Guggenheim in memory of her daughter.

LAYING OF CORNERSTONE OF UNIVERSITY HOSPITAL

On Wednesday, eighteenth of April, amid impressive ceremonies and in the presence of a large assemblage of dignitaries and doctors, the cornerstone of the University of North Carolina Hospital was laid by the Grand Master of Ancient Free and Accepted Masons of North Carolina.

The THIRD ANNUAL CONVENTION OF THE INTERNATIONAL ACADEMY OF PROCTOLOGY will be held at The Mayflower, Atlantic City, on June 7th-8th. The program will feature recent developments in Proctology through papers presented by distinguished speakers. These sessions will be open to members of the medical profession without charge. The annual banquet of the Academy is set for the evening of June 7th.

Further information and a copy of the program may be obtained by writing to the secretary, Alfred J. Cantor, M.D., 1819 Broadway, New York 23.

DR. HENRY P. ROYSTER, son of Dr. Hubert A. Royster of Raleigh, served as surgical consultant for the April tour of Army hospital installations in Germany and Austria. Dr. Royster is engaged in the practice of plastic surgery in Philadelphia.

DR. ELBERT L. PERSONS, of Duke, governor of the American College of Physicians for North Carolina, served as medical consultant for the same tour.

DR. E. L. JOHNSON, dean of Bedford's doctors, will seek the county's House of Delegates seat in the August primary. The incumbent has already announced for re-election.

Dr. Johnson, 72, has a long record of public service. Elected Mayor of Bedford last June, he has been a mem-

ber of the Town Council a number of years. He has served six years on the County School Board and another half dozen years on the Town School Board. He is the county coroner and has been both president and secretary of the County Medical Association. He took a leading role in last year's campaign to provide a modern hospital for Bedford County.

DR. MARY MARTIN SLOOP, of Crossnore, N. C., America's Mother of the Year, was principal speaker at the joint meeting of the Mid-Western and Western North Carolina press groups meeting at Morganton, May 19th. Dr. Sloop told of her experiences in New York where she was honored in special ceremonies and appeared in a number of radio and television shows.

Dr. Sloop, a graduate of the North Carolina Medical College in 1905, won the honor by reason of her having been the mainspring of the movement to establish and maintain in ever-increasing usefulness a school at Crossnore in which hundreds of mountain children have been educated.

DR. HUBERT B. HAYWOOD, JR., has opened offices in Raleigh for the practice of ophthalmology.

MEDICAL COLLEGE OF VIRGINIA

DR. WILLIAM L. RUSSELL, principal geneticist in the biology division of Oak Ridge National Laboratory, addressed the biology seminar from 4 to 5 p. m. on "Mammalian Radiation Genetics." His wife, Dr. Liane B. Russell, associate biologist in the same division, spoke before the Obstetrics Journal Club at 5 p. m. on "Radiation Hazards in Pregnancy."

Both appeared under the auspices of the laboratory and Oak Ridge Institute of Nuclear Studies. The college is one of the 22 participating medical schools of the institute.

DUKE UNIVERSITY SCHOOL OF MEDICINE

The Spring Medical Post Graduate Course will be held June 18th-21st. The program is as follows:

Registration; Primary Tuberculosis, Dr. E. E. Menefee; Common Pulmonary Lesions (an x-ray demonstration), Dr. Robert J. Reeves; Recent Advances in Thoracic Surgery, Dr. W. C. Sealy; Ward Rounds or Visits to Clinics; Round-table Discussion. Subject: Use of Drugs in Cardiovascular Diseases. Dr. Eugene A. Stead, moderator; Dr. Edward S. Orgain, Dr. W. C. Sealy. Dr. J. P. Hendrix. Tuesday, June 19th.

Urinary Tract Infections, Dr. Ed. P. Allyea; Glomerulo Nephritis, Dr. J. P. Harris; Diarrhea, Dr. J. M. Ruffin; Ward Rounds or Visits to Clinics; Round-table Discussion. Subject: Pain. Dr. J. B. Pfeiffer, moderator; Dr. Barnes Woodhall, Dr. J. P. Hendrix, Dr. Maurice Greenhill.

Wednesday, June 20th

Chemotherapy in the Treatment of Certain Diseases of the Blood, Dr. O. C. Hansen-Pruss; Self-limited Psychiatric Entities, Dr. G. A. Silver; Staff Conference (presentation of patients with informal discussion by members of the faculty); Ward Rounds or Visits to Clinics; Barbecue, Turnage's, guests of Duke University.

Thursday, June 21st

Isotopes and Their Relation to Clinical Problems. A discussion led by Dr. J. S. Harris, with Drs. Geo. Baylin, W. M. Nicholson and Wm. Shingleton; A Brief Discussion of C6, Dr. E. S. Orgain; Neurological Conference (presentation of patients with discussion by members of the Departments of Neurology, Neurosurgery and Psychiatry); Ward Rounds or Visits to Clinics. Certificates of attendance will be provided.

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DEPARTMENT OF MEDICINE, UNIVERSITY OF VIRGINIA

Dr. Lester A. Wilson, Jr., Instructor in Obstetrics and Gynecology, Duke University, has been appointed Assistant Professor of Obstetrics and Gynecology, effective May 1st.

Edwin W. Pullen, Instructor in Biology, University of Virginia, has been appointed Instructor in Anatomy at the University of Virginia, effective Sept. 1st.

The 50th anniversary of the founding of the University of Virginia Hospital School of Nursing will be celebrated in Charlottesville, May 23d-25th.

Two Virginia physicians have been appointed to top posts in the Red Cross National Blood Program: Major General David Grant, Virginia Beach, and Dr. Russell Haden, Crozet. Dr. Grant was named Director of the American Red Cross National Blood Program and Medical Director of the American Red Cross, effective May 1st. He succeeds Dr. G. F. McGinnies, Washington, who has resigned. Dr. Grant will direct all phases of the Red Cross blood program, which provides blood for military and civilian needs and civilian defense. Dr. Haden has been named associate director of the ARC National Blood Program. Both Dr. Grant and Dr. Haden are graduates of the University of Virginia Department of Medicine.

DIED

Dr. William Marvin Scruggs, 61, prominent surgeon of Charlotte, N. C., died of a heart attack at his home in the early morning of May 18th. He was born at Spartanburg, S. C., received his bachelor's degree from Wake Forest College in 1912, and his medical degree at the University of Pennsylvania in 1914. He completed two years graduate study in surgery at New York's German Hospital.

From 1916 until 1917, Dr. Scruggs was associate surgeon at Rutherford County Hospital, and when the United States entered World War I he joined the Army as a captain in the Medical Corps. For some time he was stationed at Camp Greene, a large Army training center just west of Charlotte.

In August of 1917, Dr. Scruggs went to France with Army Base Hospital No. 6. After the war he returned to Charlotte and established his practice, for many years maintaining offices in the Professional Building, in 1941 moving into his new clinic building and associating Dr. L. E. Fleming in his large practice in general surgery. He was chief surgeon at Presbyterian Hospital and on the surgical staffs of Mercy and Memorial Hospitals.

Dr. Scruggs was a Fellow of the American College of Surgeons, a member of the American Medical Association, Tri-State Medical Association, Southern Medical Association, the state and local professional groups, and the American Association for the Study of Goiter.

Dr. Joseph Otho MacClelland, 79, died May 7th in a Lumberton hospital as a result of a stroke suffered the day before. He had practiced medicine at Maxton, N. C., for 35 years and had retired five years ago because of impaired health. A year ago, while confined to a wheel chair, Dr. MacClelland was honored by the people of his section at a special "Dr. MacClelland day" when throngs gathered to pay tribute and express their appreciation for his life of service. A feature of the day was the provision of a memorial room in the Scotland County Hospital in his honor.

Dr. MacClelland was born April 17, 1872, at Natural Bridge, Virginia, and graduated from the Louisville Business College, Louisville, Ky., and the Medical College of Virginia, Richmond.

He practiced for four years in West Virginia and went to Maxton in 1912.

For many years Dr. MacClelland was surgeon for the Seaboard and Coast Line Railways and was president of the Association of Seaboard Air Line Surgeons. He was a deacon in the Maxton Baptist Church, a Royal Arch Mason, a Scottish Rite Mason and a Shriner.

ELI LILLY AND COMPANY announce the completion of a 204-ft. three story extension to the south wing of the Lilly Research Laboratories. This is the fourth addition to the original 220 ft. structure, and almost duplicates the facilities provided in 1934. The first, second and third additions, completed in 1939, 1940 and 1948, respectively, already had almost doubled the laboratory facilities of the original building.

Organic chemical and bio-chemical research are being expanded to intensify research on new antibiotics, growth factors, anti-arthritis drugs, and many others. The pharmacological, biological and physical chemistry groups are also being enlarged to assist in identifying and evaluating new drugs as they are created by the chemists.

The research staff is also being augmented to handle the ever-growing research program. From the beginning in 1894 when the scientific division was established with one pharmacist and a helper, the staff has grown to 532 persons representing every science closely related to pharmacy and medicine.

HOFFMANN-LA ROCHE announces a new, highly potent, well-tolerated antifungal agent, Asterol, available as a tincture, an ointment and a dusting powder, effective in ringworm of the scalp, athlete's foot and other fungus infections of the hair, skin and nails. Asterol is available as a 5% tincture, a 5% ointment, and a 5% dusting powder.

A Balanced Androgen-Estrogen Preparation

As side reactions may result from the use of estrogen in treatment, Organon, Inc., of Orange, N. J., has made available a balanced combination of male and female sex hormones, in single-dose form, which may be given with a minimum of side reactions. The oral and sublingual tablet is known as Di-Met; the injectable form is Di-Met (BP). Descriptive literature is available on request.

Oreton-M Buccal Tablets (methyltestosterone U. S. P. in Polyhydrol, a unique solid solvent for steroid hormones), which permits of absorption of methyltestosterone directly through the buccal and sublingual mucosae, and of its being carried directly to the tissues, is a new product offered by Schering.

Oreton-M Buccal Tablets are indicated in *prepuberal hypogonadism* or *eunuchoidism*, and the *male climacteric* or *functional hypogonadism of middle age*. After initial standardization of the patient by means of Oreton injections, patients may be maintained on one-half to one 10-mg. Oreton-M Buccal Tablet daily. In some cases, one-half a tablet, three times weekly, will be sufficient.

JOHN EVELYN: *Acetaria. A Discourse of Sallets.* Reprint of the First Edition of 1699.

"The Text describes 73 sorts of pot-herbs and then an account of their medicinal properties. Directions how to gather, prepare and dress them are followed by a seasonal table of salad-plants, compiled in response to an anonymous enquiry made many years before by the great Robert Boyle in the *Philosophical Transactions*. There follows a discourse of salads and their eaters worthy almost of Sir Thomas Browne in its eloquence and learning."

"Evelyn himself was clearly pleased with his book, for there is evidence that he thought it worth giving to a number of his friends among the nobility." (Geoffrey Keynes.)

BOOKS

A TEXTBOOK OF X-RAY DIAGNOSIS, by British Authors in four volumes. Second Edition. Edited by S. COCHRANE SHANKS, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and PETER KERLEY, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital, Radiologist, Royal Chest Hospital, London. Volume I. 434 pages with 439 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1951. \$12.00.

The five parts of this book treat of the central nervous system, the teeth and jaws, the eye, the accessory nasal sinuses and the temporal bone. In no field of medicine has this roentgenologic examination proved more of a boon to mankind than in the diagnosis of disease conditions of the head and neck. The description is vivid and precise to a degree to show it to be the work of masters, and the description is supplemented by excellent radiograms.

CLINICAL HEART DISEASE, by SAMUEL A. LEVINE, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School; Physician, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, N. E. Baptist Hospital. Fourth Edition. 556 pages, 192 figures. *W. B. Saunders Company*, Philadelphia and London. 1951. \$7.75.

This is the fourth edition of a book which has thoroughly established itself as a reliable text, containing all that it is needful to know in order to do the maximum of good for your patient who has heart disease, and all in a small compass. Levine's writings resemble those of foreign authorities in setting forth what he knows and believes, rather than the various opinions expressed by many others.

This book can be recommended unreservedly to the general practitioner—and to the internist and the cardiologist as well.

A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology and Medical Biography with their Pronunciation, Derivation and Definition.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY, by W. A. NEWMAN DORLAND, A.M., M.D., F.A.C.S., Lieut.-Col., M.R.C., U. S. Army; Former Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. New, 22d Edition. 1736 pages, with 720 illustrations, including 48 plates. *W. B. Saunders Company*, Philadelphia and London. 1951. \$10.00.

Few medical books have come to the 22nd edition, and few indeed have done so amid such constantly increasing appreciation and acclaim. In addition to being a complete dictionary of the terms used in medicine and in related sciences and arts, the profusion of plates and tables prepared for this edition make it specially noteworthy. A

dozen pages on modern drugs and their dosage afford more reliable information on the really useful drugs than is contained in most volumes devoted exclusively to *materia medica*.

A SYLLABUS OF LABORATORY EXAMINATIONS IN CLINICAL DIAGNOSIS: Critical Evaluation of Laboratory Procedures in the Study of the Patient, edited by THOMAS HALE HAM, B.S., M.D., Assistant Professor of Medicine, Harvard Medical School; Associate Director, Thorndike Memorial Laboratory. *Harvard University Press*, Cambridge 38, Mass. 1950.

This book is just what it says it is, a critical evaluation of laboratory procedures in the study of the patient. The making of laboratory examinations all the way from collection of samples is described clearly, and the interpretations made from a broad common-sense standpoint. The great number of references are given for the use of readers who may wish to pursue some special subject in greater detail.

A TEXTBOOK OF MEDICINE, edited by RUSSELL L. CECIL, M.D., Sc.D., Professor of Clinical Medicine, Emeritus, Cornell University, New York; ROBERT F. LOEB, M.D., Bard Professor of Medicine, Columbia University, New York. Associate Editors: ALEXANDER B. GUTMAN, M.D., Professor of Medicine, Columbia University, New York; WALSH McDERMOTT, M.D., Associate Professor of Medicine, Cornell University, New York; HAROLD G. WOLFF, M.D., Associate Professor of Medicine (Neur.), Cornell University, N. Y. New, 8th Edition. 1627 pages, 204 figures, 40 tables. *W. B. Saunders Company*, Philadelphia and London. 1951. \$12.00.

The eighth edition of this standard text upholds the reputation made by previous editions for being unexcelled as a one-volume textbook of medicine; and in saying one-volume is not meant any disparagement. Indeed it is doubtful if the matter contained in any of the many-volume texts includes anything of real value to the patient which is not available in this one-volume work by Cecil and his hundred and seventy collaborators.

THE FOUR PILLARS OF WISDOM: A Rational Approach to a Healthy Education, by Surgeon Vice-Admiral SIR SHELDON F. DUDLEY, K.C.B., F.R.S., Medical Director-General of the Royal Navy, 1941-1946. C. A. Watts & Co., Ltd., 5 & 6 Johnson's Court, Fleet Street, London, E. C. 4. England. 1950. 8s.6d. net.

We are told that whatever of wisdom there may be in this book was acquired during many years of reading and self-education, and by observing the behavior of all sorts and conditions of men during 40 years. The basic sciences are said to be accelerators in the acquisition of a good critical faculty and "anybody who exercises his critical ability will be astonished to find how quickly the habit becomes automatic." Just this much is enough to cause any thoughtful person to anticipate that the book contains much of wisdom.

Sketching his chapters on basic education, seman-

ties, *psychology, religion and psychology, statistics* and logic serves to convince that the author is one of the truly wise and that he has worked out a system by which a person of good intelligence and more than average determination can become wise. My own children must study this book diligently, and pass creditably an examination thereon.

RICE, DIETARY CONTROLS AND BLOOD PRESSURE: With Menus and Recipes, by FRANCES I. SEYMOUR, M.D., Froben Press, Inc., 1776 Broadway, New York 19, N. Y. Pub. date May 21, 1951. \$2.95.

The author is a physician who at the age of 48 found herself "bedded down with hypertension," and who has had the rice treatment. She says (of Durham) "many people had come there ready to die. Their own physicians had given them up." Methods of examination of patients applying for the treatment, descriptions of the tests used, and the menus, the methods of preparing the food, with a few case histories, make up the bulk of the book.

If the patient-author states how she got on under the treatment, this reviewer has not run across the statement. It would seem that she is enthusiastic for it and that she is alive after two years. Such reckless statements as "their own physicians had given them up" and the patients were desperately ill [i.e., in despair], and inaccuracy as shown by "paprika is a variety of black pepper," do not possess one in favor of the reliability of such conclusions as are stated or implied.

ANTIBIOTICS AND CHEMOTHERAPY, published monthly by Washington Institute of Medicine, Washington 25, D. C. \$10.00 annually.

This new journal is launched under the most favorable auspices. The editorial board includes 74 of the world's most eminent in this field, among the number being Sir Alexander Fleming, Sir Howard Flory, W. E. Herrell, E. C. Kendall, Perrin Long and Harry Eagle.

The initial number carries 15 authoritative articles. More than twice as many have been offered and accepted for early publication.

There can be no doubt that this journal will render great service in this important field. It is to be hoped that it will be offered in abstracted form for the great majority of doctors, who can not find time for reading so much on one corner of practice each month.

PHILOSOPHY FOR THE COMMON MAN, by HEINRICH F. WOLF. Philosophical Library, Inc., 15 East 40th St., New York 16, N. Y. 1951. \$3.50.

The author says that the professional philosophers could not give him an answer to his problems, and that in the accounts written about philosophy there is too much ancient history, without regard to a utility which would give the person searching for enlightenment the means to illuminate

a corner for himself. The author undertakes to bring philosophy within the grasp of everybody, which undertaking he realizes is audacious. How far he has succeeded is a matter to be determined for himself by the individual reader.

The book is exceedingly well written. The author's command of English is admirable, and although he has little regard for formal logic, he uses excellent logic in scoffing at logic. There is no pardon for a man who says, little hope for the man who believes, "the majority of people act logically" in their more or less extensive spheres."

DIABETES INSIPIDUS, by HARRY BLOTNER, M.D., Associate Visiting Physician, Beth Israel Hospital, Boston. Edited by HENRY A. CHRISTIAN, A.M., M.D., LL.D., Sc.D. (Hon.), Hersey Professor of the Theory and Practice of Physics, Emeritus, Harvard University. Reprinted from Oxford Loose-Leaf Medicine. Oxford University Press, 55 Vandam St., New York 13, N. Y. 1951.

Diabetes insipidus is disease of one symptom, polydipsia, and is inconvenient and may be uncomfortable rather than disabling. It is readily recognized and little liable to be confused with any other pathologic entity. The book will interest physicians who are interested in tracing a disease's history over a long period and learning just who is to be credited with making contributions to its knowledge.

ELECTROENCEPHALOGRAPHY in Clinical Practice, by ROBERT S. SCHWAB, M.D., Director of the Brain Wave Laboratory, Massachusetts General Hospital, and Associate in Neurology, Harvard Medical School. 195 pages with 105 figures. W. B. Saunders Company, Philadelphia and London. 1951. \$6.50.

This book discusses the uses and limitations of electroencephalography in the diagnosis and study of diseases of the nervous system, so will be of interest mainly to internists, neurologists, neurosurgeons and psychiatrists. It represents personal experiences and the viewpoint of a neurologist who has been making use of this means of study for a dozen years.

After a historical summary comes the discussion of the relation of neurophysiology to electroencephalography, the normal and abnormal recording, a description of the technic. Further chapters are on the use of this method in epilepsy, and in the solution of various neurological, neurosurgical and psychiatric problems.

HANDBOOK OF PEDIATRIC MEDICAL EMERGENCIES, by ADOLPH G. DESANTIS, M.D., Professor of Pediatrics and Chairman of the Department of Pediatrics, Postgraduate Medical School, New York University-Bellevue Medical Center, etc.; and CHARLES VARGA, M.D., Instructor in Pediatrics, Postgraduate Medical School, New York University-Bellevue Medical Center, etc. 51 illustrations. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo. 1951. \$5.00.

Material for this book was gathered over a num-

ber of years as a guide for physicians taking instruction in a postgraduate course. There are different chapters on emergencies of the several systems: cardiovascular, intestinal, genitourinary, neurological, respiratory; then chapters on drowning, poisoning, care of the premature infant and miscellaneous emergencies. The final chapter describes pediatric procedures which the authors conclude are needed frequently and the technic of which may not be familiar.

THE CONTRIBUTION OF SURGERY TO PREVENTIVE MEDICINE. by SIR JAMES LEARMONT, K.C.V.O., C.B.E., Ch. M., F.R.C.S.E., Regius Professor of Clinical Surgery and Professor of Surgery, University of Edinburgh. Geoffrey Cumberlege. *Oxford University Press*, London, New York, Toronto. 1951. \$2.50.

The content of this little book is a series of five lectures delivered as Heath Clark Lecturer for 1949 at the University of London. The subjects of these lectures are: Bacon's List of Scientific Qualities, Contributions of Surgery to Bacteriology, Surgery and the Broader Aspects of Prevention, and Future Contributions of Surgery. A pretty good case is made out for the thesis that, all the way back to John Hunter's time, surgery should be credited with making substantial contributions to preventive medicine; and it is confidently predicted that the future will show many another, particularly in the fields of orthopedics and urological surgery.

IN SUMMER BEWARE OF TICKS

(Editorial in the current (April 15) *Jour. A. M. A.*)

From now throughout the summer, ticks in certain areas of the United States will carry Rocky Mountain spotted fever. The mortality of the disease throughout the nation was 23% in 4,033 cases reported during the period 1939-1946. Two of the newer antibiotics, aureomycin and chlormycetin, give promise of being effective in treatment.

The important foci include the States of Virginia, Maryland and North Carolina. Many cases occur in persons on vacation in rural or suburban areas. Rocky Mountain spotted fever is characterized by a high fever, muscle pains and a red, spotted rash. Protection against infection lies in preventing the attachment of a tick to the skin. High boots, leggings or socks worn outside the trousers hinder the tick from attaching itself to the leg. If there are no openings in the clothing, however, the tick will crawl up and attach itself on the neck.

In tick-infested country one should pass the hand frequently over the back of the neck and behind the ears to remove ticks that may not yet be attached to the skin. After becoming attached, ticks seldom transfer the infection until they have fed on the victim for several hours. Therefore, inspection of the body and clothing twice daily when in tick-infested country usually is sufficient.

A tick attached to the skin should be removed immediately and as gently as possible. If the tick is pulled off with the fingers, it should be handled with a small piece of paper and the abrasion should be touched gently with a disinfectant such as iodine or gently washed with soap and water.

Vaccines have protective value for a period of less than a year. Tourists who go to infected areas and persons who live in areas where the infection is highly virulent should be vaccinated.

CIRCUMCISION—THE PREPUTOME
(F. M. Al Akl, M.D., New York City, in *Ciba Clinical Symposia*)

The ideal time for circumcision is the second week of life one hour before feeding time. Then, the stomach contains nothing to regurgitate, and the feeding bottle that follows soothes the child to sleep.

No anesthesia is necessary. Soap and water used with thoroughness and for a long enough time dispenses with all the antiseptic paints. If the preputial orifice is small, two mosquito clamps are applied to the lateral edges, a grooved director is passed between the prepuce and the glans and around to break existing adhesions. The prepuce is stretched forward, the orifice nicked between the two clamps, pushed back and the glans wiped with a saline sponge until clean of smegma. The prepuce is drawn down over the glans, the clamps removed, and the organ is passed through the *circular ring* of the preputome. The *bell* of the preputome locked, and the prepuce trimmed about it, the preputome locked, and the prepuce trimmed with a knife over and around the ring, and against the bell. The preputome is left in place for five minutes, then released, and a narrow strip of petrolatum gauze applied the corona and preputial edge and the diapered baby taken to his crib where his bottle awaits him. The diapers are changed often but the vaseline strip is not disturbed unless it becomes loose. A watch is maintained for bleeding during the first 24 hours and the wound heals with no interference.

TESTOSTERONE OINTMENT FOR PRURITUS

(H. Thistlewhite in *British Med. Jl.*, Dec. 17th)

A number of my women patients, whose ages range from 30 to 90 years, suffering the terrors of pruritus vulvae, have cause to bless testosterone ointment, which has fully justified itself after other measures have failed lamentably. A single treatment has given relief to some victims of pruritus vulvae; this remedial agent deserves to be more widely known and used.

STREPTODORNASE AND STREPTOKINASE IN INFECTIONS

(Journal American Medical Association, March 3)

J. M. Miller, M.D., et al., Baltimore, treated 85 patients with streptokinase and streptodornase with excellent results in 80 cases. Infection in the remaining five appeared to have advanced too far for effective treatment with these agents.

The types of injury or infection in which the compounds were most effective were those with clotting and pus and debris in walled-off areas which produce a honeycomb partition of the infected tissue. The group of 85 cases include bedsores, rectal infections, amputated stump infections, pilonidal cysts with abscesses, soft-tissue infections, and blood collections in the chest cavity.

The substances are injected by needle into closed areas, and a nylon pack saturated with them inserted into open infections and wounds. The walls of the honeycomb structure of waste material are liquefied, permitting any pus and waste materials to drain away.

No harmful effects on living, healthy tissue produced.

DR. A. P. GRINNELL recently ascertained the amount of opium, paregoric and laudanum sold by the druggists in a single month in 69 towns in the State of Vermont. The figures show that the amount consumed would be sufficient to average a dose to every man, woman and child, in the State of Vermont, every day in the year. By a dose is meant, one grain of opium, $\frac{1}{4}$ th grain of morphia, $\frac{1}{2}$ ounce of paregoric and 20 drops of laudanum.

— Alexander Lambert, in *Osler's Modern Medicine* (1907)

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JAMES M. NORWICH, M.D., Editor

VOL. CIII

JUNE, 1951

No. 6

Some Considerations of Anesthesia for Abdominal Surgery

GEORGE W. PASCHAL, JR., M.D., Raleigh, North Carolina
Chief, Department of Surgery, Mary Elizabeth Hospital
From the Department of Surgery, Mary Elizabeth Hospital

ANESTHESIA in recent years has seen the introduction of many new agents and new methods. The effectiveness of the anesthesiologist in producing ideal operating conditions for the surgeon on all portions of the body has made possible the almost miraculous technical achievements of today's surgeon. He has become a new and essential member of a team dedicated to healing through surgery. While more and more trained physician anesthesiologists are becoming available, many hospitals are forced to continue with the aid of nurse anesthetists, who, for the greater part carry out their responsibilities with credit. Consequently it remains for the surgeon to be informed and accept the responsibility of the anesthesia as well as the surgery itself, until such a time as his team is complete. My remarks here shall be limited to anesthesia for abdominal surgery.

The omnipresent principle of selecting an anesthesia which will afford the patient the greatest degree of safety and contribute to the prospect of his complete recovery must constantly be borne in mind. As Orr¹ has pointed out, this choice is influenced by the competency of the anesthetist, the effect of the anesthetic on the underlying pathological condition, the production of ideal operating conditions for the surgeon and the selection of a

method which is psychologically suited for the individual patient.

THE COMPETENCY OF THE ANESTHESIOLOGIST OR ANESTHETIST.—With currently trained anesthesiologists the surgeon can easily and happily transfer the burden of anesthesia. Whether physician or nurse, however, his or her capacity is the determining factor in the choice of an anesthetic for surgery on the abdomen. Both must have an understanding of the therapeutics of all agents employed, a knowledge of the effects of the drugs used on the disease of the patient and a keen ability to detect and combat any untoward effects of the anesthetic agents. It is mandatory at all times that the agent used be well within the scope of the person administering it. Use of an agent without satisfactory experience is certainly to be avoided even at the expense of using an agent considered second best. It is understood how open-drop ether would be more desirable in a given case than a newer and more effective agent if the latter is to be used in the absence of experience and complete understanding.

THE PHARMACOLOGIC ACTION OF ANESTHETIC AGENTS ON THE PATIENT.—No anesthesia has universal application. The individual patient presents the determining factors in the choice of an anesthetic. It is obvious that age, emotional characteristics, constitutional disease, in addition to the major surgical pathological condition, must be

seriously considered. The effect of the agent used may very greatly influence the success or failure of the operation. No anesthetic agent fails to alter physiologic function, some more than others. Consequently an effort should be made to choose an agent which will have the least adverse effect on diseased organs of the host.

In abdominal surgical conditions probably the organ more vitally concerned with the recovery of the patient is the liver, and an alteration in its normal function. We make an effort in these cases to use an agent with the least toxic effect. Continuous spinal anesthesia² has proved highly satisfactory in our hands. It affords more nearly an ideal anesthesia in that relaxation is complete, there is less trauma to the tissues, greater safety to the patient and the assurance that the ideal operating conditions will be maintained until the completion of the operation. Supplementary inhalation anesthesia or intravenous agents are used infrequently since care is taken to gain the complete confidence of the patient beforehand and appropriate preoperative sedation is given. There is a current difference of opinion as to the use of sodium pentothal in patients with disturbed liver function. Some claim that, since the liver is not the principal detoxifying organ, the barbiturates with relatively short action can be safely used. Cyclopropane, if necessary, given with a high percentage of oxygen and having no effect on the liver, seems to be the better agent. Ether has long been considered as having a toxic effect on the liver and is to be avoided when that organ has a disturbed function or when the biliary system is in need of a surgical procedure. Lack of oxygen has probably been responsible for many of the adverse effects of this and other agents. It is well recognized that a free and adequate oxygen exchange is of primary importance. Even with spinal anesthesia and certainly with intravenous and other agents oxygen is administered throughout the operation.

Spinal anesthesia more nearly approaches the ideal in anesthesia for operations on the gastrointestinal tract in that the bowel is rendered quiet. There is increased tone to the bowel, it is contracted and occupies much less space than when other agents are used. Van Liere, Northrup and Stickney³ in a comparative study of the action of various anesthetic agents on the muscles of the colon in dogs have shown that barbital had little effect on the activity of the colon. They showed, too, that chloroform and ether produced a decrease in tone and practically abolished colonic contractions. Cyclopropane produced spasm of the muscles of the colon and deeper cyclopropane inhibited contractions. Nitrous oxide also produced spasms of the musculature even in deeper concentrations. In cases of intestinal obstruction it is obvious that

the action of anesthetic agents should be understood in the choice of an anesthetic.

With the increase in geriatric surgery more and more patients come to the operating table with some degree of heart disease. Orr¹ divides these patients into three groups: those with cardiac irregularities, those with congestive failure or a history of congestive failure in the past, and those with a history of a myocardial infarct. He states that the main contraindication is against the use of cyclopropane where the increased irritability of the cardiac musculature may lead to ventricular fibrillation. He also points out that it has been often observed that a cardiac irregularity will disappear under ether anesthesia. The group of patients with some degree of congestive heart failure or a history of congestive heart failure in the past, he feels, are the most difficult to control under anesthesia. The preoperative medication is directed in reducing pulmonary edema and correcting ventricular imbalance. Dehydration of the patient preoperatively may, if necessary, be accomplished by giving a diuretic and giving the patient a salt-free diet. He advises against using saline solution before or during operation. We secure the help of the cardiologist with this group of patients and encourage it in others.

In recent years we have used a Levine tube in the stomach, inserted preoperatively, to first empty the stomach prior to operation and to keep it emptied during operation. Even if a Miller-Abbott type of tube has been used in cases of intestinal obstruction prior to operation, a Levine tube is inserted into the stomach and the active suction is continued during operation. This has been done to lessen the possibility of the patients vomiting and to avoid aspiration of the vomitus. Gastric lavage with saline has become routine to neutralize the acidity of gastric contents and possible vomitus and thereby decrease the degree of irritation to the air passages in the event vomiting occurs and the vomitus is aspirated.

In a certain group of poor-risk patients, where spinal anesthesia is contra-indicated we have done endotracheal intubations under topical anesthesia to assure a patent airway and then have given cyclopropane or intravenous sodium pentothal. Curare is used by many for additional relaxation if needed.

But also in this group we feel that spinal anesthesia affords the best chance of success. The peripheral vessels are dilated and some of the stress is taken off of the heart and lungs. Oxygen is administered throughout the operation and fluids or blood are given with great caution or not at all.

Certain cases make it necessary to avoid either spinal anesthesia or a general anesthetic. In these local or regional blocks may prove satisfactory.

One of our local surgeons recently operated upon a patient practically moribund, who prior to operation could not safely take anything except a minute quantity of cyclopropane. On removing twenty-one feet of gangrenous bowel her condition rapidly improved on the operating table so that she tolerated supplementary ether for the closure of the wound. This dramatically illustrates the improvement frequently observed following the correction or removal of a pathologic state.

ADAPTABILITY OF THE ANESTHESIA TO THE PATIENT.—In older patients the anesthetic of choice can usually be given. In most instances they can be persuaded to take the elected agent. A few minutes is usually sufficient to prepare them to accept the anesthetic most desirable in their individual case. It affords them real assurance and gives them confidence. It secures their coöperation which is highly important. The anesthesiologist also gains important information of the patient's psychological attitude which facilitates the conduct of anesthesia. In younger patients an effort is made to gain their confidence also. General anesthesia is generally employed in this group.

CONCLUSIONS

1. New and effective anesthetics have broadened the opportunity for the surgeon.
2. The individual patient and the competency of the anesthesiologist present the determining factors in the choice of an anesthetic agent.
3. Some considerations of anesthesia for abdominal surgery are discussed.

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PROTEIN HYDROLYSATE OF LITTLE OR NO VALUE

(Barbara Billing, et al., Univ. of Edinburgh, in *Edinburgh Med. Jour.*, Feb.)

Protein hydrolylate (Pronutrin) plus sugar is inferior as an antacid *in vivo* to whole or skimmed milk, the comparison being made on amounts containing equal quantities of nitrogen. Addition of fat to the hydrolylate-sugar mixture diminishes but does not abolish the inferiority. Protein hydrolylate, given orally, is readily absorbed and utilized in the sense that there is no increase in faecal nitrogen, and no increase in urinary amino-acids. In a number of instances, however, subjects in positive N balance when given protein hydrolylate showed a disproportionately small gain in weight.

When protein hydrolylate is given intravenously at a rate which produces no significant increase in the plasma amino-acid concentration metabolizing only 70% of the injected hydrolylate.

Dietary supplements of protein hydrolysate are of no

value in the treatment of patients suffering from peptic ulceration.

In the preparation of poorly nourished patients for surgical operation protein hydrolysates are of limited value and in the immediate post-operative period are for various reasons contraindicated.

The administration of protein hydrolysates by the IV route is safe provided certain precautions are observed, but is of no value in the prevention of the so-called catabolic destruction of protein tissue following major surgical operations, and while not harmful, does not improve the condition of severely jaundiced patients.

BOWEL PERFORATION DUE TO INGESTED FOREIGN BODIES

(W. P. Kleitsch, M.D., & G. S. Sinow, M.D., Lincoln, Neb., in *Amer. Jour. Dig. Dis.*, May)

Four days prior to admission the patient had suffered a sudden, severe, abdominal pain while engaged in heavy manual labor; no nausea or vomiting, normal bowel movements occurred daily.

On admission abdomen rigid and tender. Leuko. 16,500—83% neut. Serum amylase was normal. Patient observed for 24 hours during which time he was treated with IV fluids, antibiotics and nasogastric suction. The next day at operation in the lower jejunum was an area of serosal reaction near the mesenteric border, no perforation demonstrated, but near by a sharp, pointed object, the dorsal spine of a catfish, was found free in the peritoneal cavity. The patient had eaten catfish the day before the onset of his symptoms.

Man admitted for treatment of a pararectal abscess, rectal pain and tenderness three days prior to admission and becoming increasingly severe, localized to the right buttock, a swelling adjacent to the anus. T. 104. Penicillin, sitz baths and sedation for two days, then abscess opened, chicken bone 2.5 cm. long free in the abscess cavity.

Note.—Dr. T. C. Bost, of Charlotte, some 20 yrs. ago discovered at operation a fish bone as the cause of a perforation followed by general peritonitis.

FALLACIES IN CURRENT THERAPEUTIC TRENDS IN ACUTE APPENDICITIS

(F. F. Boyce, New Orleans, in *N. O. Med. & Surg. Jour.*, April)

An analysis of 1,172 cases of acute appendicitis treated at the Charity Hospital for the four-year period ending in 1949 reveals certain trends which indicate an undue reliance upon measures other than prompt surgery. In particular, sulfonamide and antibiotic agents were sometimes used, both inside and outside of the hospital, as if they were curative rather than adjunct agents. A tendency toward the wider use of delayed or expectant treatment was also observed in this series, chiefly because of the reliance placed upon these drugs. It is suggested that their use be reevaluated, that they be used only when they are indicated, and that their limitations as well as their undesirable powers be taken into account when they are prescribed.

BED-WETTING

(J. W. Headstream, M.D., Little Rock, in *Jour. Arkansas Med. Soc.*, May)

A common symptom produced by narrow meatus is bed-wetting. Enuresis is a disease after the age of three years.

Meatotomy, urethral dilatations, and instillations of increasing strength of silver nitrate solution up to 1% will relieve many of these children. Any that are not relieved in from four to six weeks should have a cystoscopic examination of the lower urinary tract.

In some of these cases in which no pathology can be demonstrated there is a response to ephedrine sulfate, grains $\frac{1}{2}$, h.s. Once the habit is broken for a month there is recovery from the symptom.

Preoperative and Postoperative Care

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THE SUCCESS of a hazardous operation even though performed by a skilled surgeon may be defeated by poor management of the patient before, during or after the procedure.

Preoperative preparation is an individualized medical program designed to correct abnormal physiology and improve the patient as a surgical risk.

Supportive therapy during operation and postoperative care then become a matter of maintaining the advantages gained preoperatively until healing of the operative site permits the patient to successfully resume control.

As a result of understanding management, both the elderly and the very young have been found to tolerate even the more major procedures quite well.

PREOPERATIVE CONSIDERATIONS

Nutrition

Long observation and much experimental work has established that the malnourished patient is a poor operative risk.^{1,2} He is already catabolizing his own tissue proteins to supply his metabolic needs and has no reserves to provide for the extra demands that are inevitable with operative trauma and wound healing.⁴ Therefore, to give the patient his best chance, his hypoproteinemia must be corrected preoperatively. This is a time-consuming task and particularly hard to accomplish by intravenous methods when it is of nutritional origin because serum proteins represent only 3 per cent of the proteins in the body, and depleted reserves elsewhere must be restored before the plasma albumin and globulin levels will remain normal.⁵

For daily maintenance demands in the human 100 grams of protein is usually sufficient but in severe debilitation or under stress a 300 to 500 gram protein intake is advisable. The emphasis on building up the patient's protein reserves is to avoid the common postoperative complications that result from hypoproteinemia. These include obstructive edema at the site of intestinal anastomoses,² impaired intestinal motility,⁶ delayed wound healing, wound dehiscence,⁷ generalized edema and anasarca, and even predisposition to decubitus ulcers.⁸

There is no better way to build up a patient than by oral feeding in whatever form it may be tolerated. A high protein and high calorie intake such as the Meulengracht diet is desirable for most purposes.

For those patients who require liquids because

of partial obstruction especially in esophageal, gastric and duodenal lesions, the Varco¹⁰ type of diet is admirable. Made rich with whole eggs, homogenized milk,¹¹ cane or lactose sugar, salt, accessory vitamins and flavor, it is palatable for oral consumption or may be fed by Levine tube with a Murphy drip. It has a protein-fat-carbohydrate ratio of about 3 : 1 : 10 and an intake of two and one-half to three quarts will provide over 5000 calories per day. Sporadic episodes of diarrhea that may occur with this diet are controlled by adding small doses of paregoric, amphogel and bismuth subcarbonate to the formula. This type of feeding does not require hospitalization, although the help of the family physician or the surgeon is necessary to teach a member of the family how to prepare the diet, pass the tube, keep a calorie count, etc. Hospitalization for definitive treatment may be then delayed until the most opportune time for the patient.

The results of feeding by gastrostomy and jejunostomy have been disappointing, so that with those patients who tolerate nothing by mouth because of a high degree of esophageal, gastric or duodenal obstruction, we must move rapidly to arrest their protein and electrolyte depletion with a rigorous hospital program of parenteral feeding. Energy requirements are met with about 250 grams of carbohydrate so that three liters of 5 per cent protein hydrolysate (amigen) in 5 to 10 per cent glucose intravenously will restore a patient to positive nitrogen balance and gradually replenish protein stores.

Most of these patients have a contracted blood volume¹² and anemia in addition to their lowered plasma protein values¹³ and they will benefit profoundly from large transfusions of whole blood—up to 2500 c.c. in three to five days.

Electrolyte and Fluid Balance

Ordinary salt requirements are automatically cared for in the nutritional programs above unless there is abnormal loss by some process of dehydration such as vomiting, diarrhea, fistulous drainage or Wangensteen suction. Parenteral injection of 500 c.c. of Ringer's solution or physiological saline for each 1000 c.c. of fluid lost will usually provide adequate salt replacement therapy. Minor problems of acid-base disturbance will often resolve themselves with this same treatment but patients with more severe acidosis may need sodium lactate and/or sodium bicarbonate especially in hepatic and renal insufficiencies.

Dehydration *per se* is best recognized from the

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clinical picture the patient presents.²⁰ Treatment is based on the knowledge that clinical signs are not usually evident until fluid equal to 6 per cent of the body weight has been lost.²¹ Poor skin turgor, soft eye balls, mental apathy, loss of appetite, physical weakness, dry tongue, soft pulse and a decreased urine output (800 c.c. or less) with high specific gravity (1.030 plus) are common signs of dehydration. The problem is usually remedied by parenteral administration of 5 per cent dextrose in water or in saline if indicated as above. When this is given by hypodermis, 1 c.c. of hialuronidase injected in the tubing facilitates absorption and reduces pain.¹⁴

Response to treatment is easily followed. A return of normal skin elasticity and a 24-hour urine volume of 1000 c.c. to 1500 c.c. usually indicates all is well. Where issues are confusing, urine specific gravity and urinary chlorides (Fantus test)²² are inexpensive tests that may be run daily to determine fluid and sodium chloride needs. Where serious doubts persist, plasma chlorides, CO_2 combining power and an NPN (non-protein nitrogen) determination may clarify the problem. In any case, where doubt is cast upon kidney function a base line NPN is mandatory before operation.

We encourage our patients to keep a careful protocol of their own intake and output (with help if necessary) whether they are preparing for operation at home or in the hospital. This eliminates guess work and encourages the patient to drink the amount requested by his physician.

Vitamins

Chronically malnourished patients often have vitamin deficiencies—especially if obstruction, diarrhea, liver disease, peptic ulcer¹⁵ or burns are part of the clinical picture. Lack of certain vitamins interferes with wound healing¹⁶ (vitamin C), carbohydrate metabolism (B complex vitamins), amino acid utilization¹⁷ (riboflavin) and the clotting mechanism of blood (vitamin K). For adequate protection of the patient, these vitamins should be supplied preoperatively and postoperatively in therapeutic amounts.

If a prothrombin time determination has not been made in the routine work-up of a patient about to undergo operation we do not hesitate to administer a full therapeutic dose (72 mg.) of vitamin K intravenously if any indications¹⁸ are present for its use. Quantities in excess are well tolerated and apparently do no harm.¹⁹

Mental Preparation

The psychogenic preparation of the patient is often overlooked—especially by the surgeon. He seldom has the opportunity to know the patient as does the general practitioner and tends to slough this responsibility to the latter. Here is an opportunity for good liaison. The medical man has usu-

ally impressed the patient with his need for an operation but there is ample cause for the surgeon to take the time for an unhurried interview to confirm what the family doctor has said and to convey to the patient a personal interest in his problem. The patient's acceptance of many of the unpleasant events before and after operation as being routine procedures quite within his tolerance will be far more likely if he is told ahead of time of the purpose of all the tubes that will dart in his direction for suction, lavage, parenteral feeding, blood, enemas, etc. We have found it particularly worthwhile to explain the value of early ambulation and infrequent dressings to the patient—and the relatives as well.

Special Problems

In preparation of the gastro-intestinal tract for bowel surgery, special procedures are often indicated. In pyloric obstruction from a duodenal ulcer, a check is always made to see how much gastric residual the patient carries three hours after an evening meal. Over 200 to 300 c.c. suggests that the stomach is edematous and nightly lavage is instituted to reduce this edema. We follow this with Wangensteen suction on a nasal stomach tube which is removed between 4 and 6 on the following morning.

For the lavage we use one-half gallon of one-half per cent bicarbonate water at room temperature through a large stomach tube. This routine is continued every night three hours following the evening meal until the residual is less than 200 c.c. or until a five-night program indicates our efforts are of no avail.

In the presence of certain mechanical obstructions of the small intestine, either the Miller-Abbott or the Cantor tube with Wangensteen suction will often provide adequate emergency decompression.

With certain lesions of the colon or rectum causing incomplete obstruction, a modified Miles regimen will frequently renew fecal passage until an operation can be performed electively rather than as an emergency. One ounce of a 5 per cent solution of magnesium sulfate (1 ounce of saturated magnesium sulfate to a pint of water) is given to the patient daily at hourly intervals beginning at 8 a. m. until two bowel movements occur each day.

Complete obstruction of the large bowel and certain lesions of the upper intestinal tract, of course, demand emergency surgery which will not be discussed here.

Antibiotics

Intestinal antibiotics are now routinely employed before all but emergency operations on the small or large bowel. Dixon, of the Mayo Clinic, states that effective preparation may be obtained by oral sulfathalidine, 6 grams daily, in divided dose, for

five days preoperatively, and oral streptomycin 2 grams daily for two days.

Aureomycin, 2 grams per day, or chloromycetin, 4 to 8 grams per day, is said to be equally effective in attempting to sterilize the bowel.

For skin preparation of both the patient's skin and the surgeon's hands, we have found 3 per cent hexochlorophine in phisoderm or soap as entirely satisfactory. When possible, the patient's operative site is also prepared with a three-minute wash with phisohex for several days before operation.

Choice of anesthetic and care during operation must be considered beyond the scope of this paper.

POSTOPERATIVE CARE

After long operations, it is an advantage to have the anesthetist aspirate retained secretions from the trachea and bronchial tree before the patient leaves the table.²¹ If excessive blood loss was not replaced during operation, a whole blood transfusion is started as soon as possible. Water intake for the patient's day of operation is brought up to a total of 1500 c.c. with 5 per cent dextrose in distilled water²⁶ (with the usual ampule of Solu B and gram of ascorbic acid) to replace insensible fluid loss. Electrolyte requirements are minimal postoperatively for the first 48 hours and in fact saline is not well tolerated for about 24 hours following a serious operation.^{4,25}

Daily fluid intake thereafter is brought up to about 2500 c.c. with 5 per cent glucose and/or 5 per cent amigen and the usual vitamins supplementing oral intake as was done preoperatively. Vomitus, Wangensteen, or biliary drainage is replaced by one part of saline or Ringer's for two parts of drainage, but otherwise not over 250 c.c. of salt solution is given in any one day. Should saline deficiency be suspected it should be proved by urinary chloride determination before more salt is given.²²

Wangensteen suction after serious operations is used only for 24 to 36 hours to relieve vomiting and distention. It is not routinely used except to decompress the duodenal stump in gastric resections. In these procedures we have found that oral feeding will be tolerated much earlier by these patients if the Varco diet is fed through a long soft Penrose tube placed at the time of operation so that it extends from the nares through the gastroenterostomy into the distal loop of jejunum. Detection of bowel sounds will indicate when a Meulengracht diet may be started, and passage of flatus is usually a gratifying sign that all is well.

It is our policy to avoid deep sedation, intestinal stimulants or enemas unless there are unusual indications and the return of normal physiologic processes. Desirable sedation is that which will permit the patient to be encouraged to cough and get up and walk without unbearable pain but not enough

to keep him drowsy.

Ambulation

If blood volume has been restored to nearly normal limits, we have our patients on their feet walking in place or about the room the same night of the operation. Thereafter, they are helped to their feet three times a day. Self-confidence soon returns and bath room privileges are granted at the earliest opportunity.

This practice has been shown to induce coughing and deep breathing and maintain vasmotor tone in the extremities which in turn sharply reduces the incidence of pulmonary complications, venous stasis, thromboembolism and postoperative asthenia. The abdominal organs fall back into a more normal functional relationship in the upright stance before adhesions can form and fix them in positions conducive to obstruction.

The patient who ambulates early enjoys less postoperative distention, rapid return of appetite, rapid rise in morale and an altogether smoother convalescence. The shortened period of hospitalization that results is valuable to both the patient and the hospital.

Occasionally there are patients that give the impression that they are just too tired to live. It has been our experience that 50 to 100 milligrams of Oretan (Schering*) — testosterone propionate — in oil administered the fourth or fifth postoperative day and then on alternate days for three doses will often do much to improve their strength, increase their appetite and raise their morale. This drug has a strong tendency to place the patient in a positive nitrogen balance and conserve intracellular fluids.²⁹

We want to stress the importance of prompt investigation of untoward postoperative signs and symptoms. This again requires a close liaison between physicians, nurses, orderlies and dietitians. Any one of this group may be the first to note a significant untoward symptom or sign as their routine duties carry them within the patient's attention.

Oliguria or anuria in the recovery phase may be from the primary renal insufficiency of shock, transfusion reaction, or simple obstruction as from prostatic disease. In either case we have pointed out the importance of not flooding the patient with fluids in this phase. Daily charting of the patient's weight will give the physician the best single criterion of his fluid needs. Later as diuresis appears, salt requirements may rise above normal and should be supplied.

A sharp rise of temperature during the first 48 hours commonly indicates atelectasis. Bronchoscopic removal of the mucous plug is indicated when the diagnosis of atelectasis is established by

*Supplied through the courtesy of Dr. Edward Henderson by the Schering Corp. of Bloomfield, N. J.

x-ray or clinical signs.

Temperature rise from infection appears late—from the 3rd to 10th postoperative day. It may be due to urinary tract infection, pelvic or subdiaphragmatic abscess or infection in the operative wound. Studies of urine sediment, rectal examination, fluoroscopy of diaphragms and examination of the wound usually make the diagnosis. Thromboembolism should be treated prophylactically by early ambulation, leg exercises and massage. Calf pain, tenderness (Homan's sign) or increase in circumference is justification for starting anticoagulant therapy or ligating potential donor veins. A simultaneous rise in temperature, pulse and respiration also suggests this complication²⁷ (Allen's sign). If persistent edema is caused by vasospasm (temporarily relieved by sympathetic block with tetraethyl ammonium chloride—Etamon) appropriate sympathectomy is indicated.

With regard to the use of antibiotics, we follow the principles outlined by Perrin Long.²⁸ The prophylactic use of antibiotics is indicated when an operation is to be performed in a potentially infected field (i.e., tonsillectomies, chest procedures, perforating abdominal wounds or colon operations). Antibiotics are otherwise reserved until indications for therapy arise.

CONCLUSIONS

Correction of abnormal physiologic processes preoperatively is often tedious to both physician and patient, but it greatly facilitates control during operation and postoperatively, and those with experience acknowledge that the combined efforts devoted to these less dramatic activities in behalf of a patient yield gratifying results.

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A SECOND ATTACK OF POLIOMYELITIS

(E. C. P. Williams, M.D., in *British Med. Jour.*, May 12th,

On the evidence this man had two attacks of poliomyelitis within 2½ years, the first being mild, from which almost full recovery was made; the second a fulminating attack, which caused death. The second attack ran a typical course showing plainly the biphasic progress of the disease, there being an interval of two to three days between the illness of the invasion and the onset of the paralytic phase. During the remission he felt well* enough to play such a strenuous game as squash. It is possible that had he remained quietly in bed during this remission the illness would have terminated as an abortive attack of poliomyelitis, without paralysis.

*At this time the patient was a physician intern.

The Management of the Patient who has Urinary Calculi

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APATIENT suffering from renal disease, apart from Bright's disease, is likely to have one or more of the following symptoms. 1. Frequent or painful micturition. 2. Pain or tenderness over the kidneys. 3. An enlargement of the kidneys. 4. Pus in the urine. 5. Blood in the urine.

The conditions most likely to give rise to one or more of these symptoms are suppuration in the kidneys, tuberculosis, stones, hydronephrosis and tumor. A urinary calculus is a stone-like body composed of urinary salts, bound together by a colloid matrix of organic matter. It generally consists of a nucleus, around which are deposited concentric layers of one or more of the urinary salts. These salts as they occur in the urine are of crystalline structure. In a calculus, however, this crystalline structure is entirely lost and all that can be seen is an amorphous mass of granules imbedded in an albuminoid matrix. The albumin as a material, therefore, occurs not only in the nucleus but in all of the successive layers which go to make up the calculus. The three principal constituents going to make up a urinary stone are uric acid, calcium oxalate and ammonio-magnesium phosphate, the so-called triple phosphate. These may occur alone, but frequently they are combined. The x-ray visibility of the stone depends on the atomic weight of these various chemicals combined in the albuminoid matrix.

Urinary stones are generally divided into two groups, accordingly as they occur primarily or secondarily. Primary stones form in the urine without any antecedent inflammation, and consist usually of uric acid, urates or calcium oxalate, although in rare cases they may be composed of cystin, xanthin, or calcium carbonate. This is when the urine is acid. The secondary stones are formed as the result of inflammation, and the common constituent is ammonio-magnesium phosphate, but amorphous phosphate and ammonium urate may enter into its composition. The urine is generally alkaline.

The conditions which govern the formation of urinary calculi are still far from understood. Much has been written about why we have kidney stones. A great deal of experimental work has been done in an effort to determine why urinary stones form. The two factors which naturally suggest themselves are high concentration of crystalline salts in the urine and inflammation in the urinary tract: but the urine may be loaded with crystals for a long period without the formation of stones. Secondary

prostatic calculi in the bladder, it is true, are not infrequently accompanied by the cystitis associated with enlargement of the prostate. On the other hand, inflammatory conditions of the renal pelvis are very common, whereas renal stones are comparatively rare. Moreover, pyelitis is more common in the female than in the male, whereas the incidence of renal stones is just the reverse, more men having renal stones than women. It has been found that in the Congo of South Africa, where people drink little water, many go as long as 24 hours without urinating, losing most of their fluids through the skin in the form of sweat. Among these people any type of renal calculus is extremely rare. One case report cites the examination of one million people in the Congo region of Africa without finding a renal stone. This makes one wonder if concentration has much to do with the formation of stones.

The question of metabolic factors comes in. We do know that where a patient has a hyperparathyroidism as a result of over activity of the parathyroid, the bones become decalcified, and the calcium removed from them. The calcium first floods the blood and it is then deposited in the renal tubules or renal pelvis, which gives rise to the formation of a calculus in the latter position. The question often arises: which comes first, the stone formation or the renal infection?

In the routine of seeing patients with renal stone, it is interesting to note how many of them have no sign of a renal infection. Their first sign is one of obstruction. In many cases a careful history will reveal that out of a clear sky came the attack of colic or obstruction which brought the patient to the doctor, and one will find a small stone, producing a complete urinary obstruction, lodged in the ureter. The urine may be free of any microscopic evidence of lithiasis, yet x-ray examination disclose a large stone in the kidney, ureter, or bladder. Many patients who have a small stone which drops down into the ureter will have severe colic, the stone producing a complete obstruction. Urine from the bladder may supply no evidence, yet on passing a catheter by the stone residual urine be obtained loaded with debris, which condition immediately clears up if and when proper drainage is instituted.

The symptoms of urinary calculi vary widely, from none at all, in what is called a quiet stone, to all of the general symptoms of a renal infection associated with the stone. Far the largest stone that it has been my experience to see did not pre-

sent any symptoms whatsoever, only the sign of a painless hematuria. This patient was an asthenic man who had worked every day, whose gross hematuria had caused his family physician to refer him. Though he was very slender, his kidney was not palpable. However, on x-ray examination he was found to have an enormous renal stone, a hydro- and a pyo-nephrosis. Although there was no evidence of urinary obstruction, of course he lost his kidney.

A stone may form in one of the calyces where it cannot get out—a quiet stone, producing no signs; on the other hand, renal pain may be caused by the stone producing ball-valve obstruction in a goose-neck calyx. The stone may lie in the renal pelvis for years without producing any signs or symptoms. A stone may be in a portion of the ureter and be completely quiet. On routine examination stones are found in the bladder of many persons. Occasionally, in the urethra behind a stricture, an unsuspected stone is found on dilating a stricture and passing a sound.

The age of the patient seems not to have much influence. Stones may be found in children, particularly in the bladder, or they may be found in the aged. In many aged patients, a large renal stone is found, and on occasion the stone has completely sloughed out of the kidney pelvis, and been found lying free in the perirenal area, or walled-off.

After a diagnosis has been made, one has to employ all his ingenuity to determine what procedure is best to employ. If the patient is in good physical condition and the stone is too large to be removed transurethrally, then one must employ incision. An aged patient may carry a large stone in one kidney for years without much difficulty. This is particularly true since we have modern drugs. A stone in a calyx, too large to pass down and producing signs or symptoms should be removed by a nephrotomy; one in the pelvis may be removed through a posterior pyelotomy. A stone in the ureter, depending on the size of the ureter, may be removed by multiple catheterization and over-dilation of the ureter, or employing one or more of the stone-removing instruments. The Johnson stone basket works well in the lower third of the ureter, but in the upper third it is not satisfactory.

In examining a patient, first make a scout film of the kidneys, ureters and bladder. If the stone is very small and in the upper third of the ureter, next make an intravenous urogram, to determine the excretion of urine by the right and the left kidney, respectively. A kidney will pass phenolsulphonphthalein considerably longer than it will pass Skiodan or Neoipax. For that reason one may not become alarmed if there is a diminution of dye from a kidney. A kidney will quickly regain its functional capacity if the obstruction is relieved.

In considering what procedure is best to employ, one must bear in mind the sex and whether or not one is an arduous laborer. The patient who can afford a long stay in the hospital or can lose months from work can frequently be made to pass a fairly large stone. One who can spare little time from his work can have a surgical removal of a stone and be back on the job in four to six weeks. It is highly important that an obese person lose weight if possible. A reduction diet and exercise will, in many cases, cause a loss of 25 to 50 pounds, facilitate a surgical procedure, and shorten the hospital stay, and the convalescence, and hasten the return to work.

Conservatism has been my policy, insofar as could be within reason. A kidney which can be saved is highly important. It is hard to realize the power of regeneration of a kidney, once ample drainage is instituted. A patient with a 50 per cent renal function will frequently come back to a normal 100 per cent function with nephrostomy drainage after removal of a kidney pelvis stone. The nephrostomy drainage tubes may be left in for weeks or even months. The McIver catheter, which has a Foley self-retaining bag, may be passed in through the kidney substance into the pelvis, and its splinting catheter passed down the ureter. This will bring about results which are almost unbelievable in having a kidney drain properly over a period of time.

In dealing with calculi of the renal pelvis, in people beyond 60, one must bear in mind the possibility of associated cancer. In many cases careful pathological examination of various portions of the kidney is necessary to find cancer cells. Particularly is this true of adenocarcinoma, which on many occasions is superimposed on severe pyelonephritis. In kidney surgery, ample exposure is a very important factor. The 12th rib is easily removed. This will give 1½ to 2 inches more exposure—very useful where one expects to do an upper polar nephrotomy. In doing ureterotomy on a slender person, a short incision in the region of Petit's triangle will give ample view of the upper third of the ureter. This incision does not work satisfactorily in an obese person. An extraperitoneal incision in McBurney's area is satisfactorily for getting at the upper portion of the lower third of the ureter, the transperitoneal route is satisfactory in the lower third of the ureter bringing the drainage out through a stab wound extraperitoneally. Bilateral renal stones in the middle or lower third of the ureter may be removed through a transperitoneal incision.

The stones are located by passing catheters into the ureters and up to the region of the stone before laparotomy is begun. In the female with a stone in the lower third of the ureter, just outside of the

vesical position, a transvaginal incision is best. However, this operative procedure can be disappointing in case of a greater dilated ureter above the stone, allowing stones to move upward after the anesthetic has been given, to the embarrassment of the surgeon at being unable to find the stone.

It is highly important that the patient with calculi be carried along with fluids, antibiotics, and free use of blood. The urinary antiseptics of modern times in many cases give the surgeon an opportunity to get the patient in much better condition for operation. Postoperatively the patient should be moved frequently, encouraged to breathe deeply, be given leg exercise, and ambulation allowed, even insisted on, as soon as is possible. Convalescence is hastened and the complications we used to have, particularly thrombophlebitis and pulmonary atelectasis, prevented almost entirely. In every case of complete obstruction some type of drainage should be provided. The condition of the other kidney in unilateral cases should be determined. After the ureter has been obstructed for a time, the other kidney hypertrophies and assumes additional function, which it retains in proportion to the loss of function through atrophy of the obstructed kidney. Obstruction for more than three weeks spells disaster to the function of the kidney, even though the obstruction is then removed.

DIABETIC COMA—LESS THEORY AND MORE SENSE NEEDED
(G. W. Haigh, M.D., Worcester, Mass., in *Clin. Med.*, April)

Even in the larger hospitals, the mortality of diabetic coma continues excessive largely because of the teaching of too much theory and the practice of too little common sense. The syndrome of unconsciousness, dryness, abnormal quantities of acid radicals, sugar, sodium and potassium in the blood and urine, the most reliable guide to treatment is acetone and diacetic acid.

After urinalysis has confirmed the diagnosis and blood has been obtained for supplementary tests, a saline infusion is started, 2 to 3 drops per sec. Immediately into the tubing near its attachment to the IV needle, insulin is introduced, 10 units per min. Since the average case requires 600 to 700 units to restore consciousness, this would probably require at least an hour. Specimens of urine to be examined with dry reagents are obtained through an indwelling catheter q. 10 to 15 min., more often at critical stages. Only the initial b.s. determination may prove trustworthy until the discontinuance of the IV therapy. As soon as the patient has come out of coma, a liquid diabetic diet and ample subcutaneous insulin. After recovering consciousness the patient may require even as much as 50 extra units of insulin, in addition to that needed for the thorough utilization of his food, before the ketosis has been dispelled.

Since hyperinsulinemia responds instantly to the IV injection of glucose, during the period of intensive IV treatment with the specific hormone, a syringe with a solution of glucose should be kept at hand for immediate use. Like the insulin, this can be injected into the infusing tube at the rate of 4 c.c. of 10% solution every 3 to 5 min., while checks are kept upon the urinary reactions for ketones and sugar.

As diabetic coma is not uncommonly associated with other diseases, at times, this routine may have to be modified. The discovery of no other disease should be permitted to delay the institution of these measures for combating the hypoinsulinemia.

The rational intensive management of diabetic coma enables the physician to meet the emergency directly and effectively and with minimal assistance and equipment.

CARDIOVASCULAR DISEASE: A REVIEW OF RECENT ADVANCES
(Maurice Gore, M. D., Chicago, in *Clin. Med.*, April)

The death rate from rheumatic fever has dropped, largely due to the prophylactic use of the sulfonamides and antibiotics in infections.

In bacterial endocarditis a half-million to one million units of penicillin daily for four weeks will bring about a cure in most cases. Dosages as high as 10 million units a day may be required, as determined by the clinical course or the sensitivity studies of the organism if isolated and identified.

Nitroglycerin is still the most efficacious agent in the treatment of angina pectoris.

Dicumarol and heparin have reduced the thrombo-embolic phenomena in myocardial infarction and should be used where no contraindication exists.

The treatment of hypertension is far from satisfactory. Many asymptomatic cases are best left alone.

The therapy of congestive failure continues to be principally digitalis, diet, and diuretics. Digoxin is more readily excreted so that in 24 to 48 hours intoxication can be relieved by discontinuing the drug.

Thiomerin is a safe diuretic given subcut. The patient can be taught to self-administer the drug.

Low-sodium diets have established themselves as invaluable. Drinking water must be considered in the calculation of the diet, as its sodium content varies greatly in different parts of the country. The hazards of too rigorous sodium depletion are to be kept in mind.

Physicians who take eeg. and send them to skilled interpreters should equip their machines with unipolar and V-lead controls.

CANADA TOOK FIRST CENSUS IN MODERN TIMES
(W. P. D. Logan, M.D., in *British Med. Jour.*, April 7th)

Credit is claimed by Canada for the first census of modern times, a census of the Colony of New France in 1666. The first complete census of a European country was held in Iceland in 1703, followed by Sweden in 1749. After a considerable amount of religious opposition had finally been overcome the first census in England was held in 1801.

In 1930-2 the occupation with the highest mortality of males was that of tin- and copper-mine workers below ground, with mortality experience 242% above the average for all males. Medical practitioners had mortality rates 6% and coal miners 70% above the general average.

In 1851 one person in every 979 was returned as blind, and one of the most prolific causes of blindness in England was smallpox, which was responsible for more than one-sixth of the cases.

Moses, Joshua and three of the Kings of Israel are said to have numbered the Jews.

PREMATURE EJACULATION.—Some successes have been reported in those cases where the problem is one of hypersensitivity of the glans penis, by the application of anesthetic ointments one to two hours before the time of coitus, rubbed well into the glans and underside of the prepuce. The intiments used are Nupercainol or Surfacain.

—P. L. Singer, in *Clin. Med.*, April,

DEPARTMENTS

HUMAN BEHAVIOUR

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ANXIETY

EVERY human being, at one time or another, experiences some form of anxiety, particularly in situations which constitute recognized threats to his safety and well-being. Anxiety severe enough to constitute a disability, rendering a person ineffectual and incompetent at the usual tasks of life, should be recognized as pathological. The cause of the anxiety is rarely understood or recognized by the sufferer. Much has been written, especially during the last decade, concerning the anxiety and its effect on human behaviour. It is the purpose of this short discussion to reacquaint our readers, especially general practitioners, with some of the classical symptoms of anxiety, for they are usually the first to see a patient suffering with this condition. If not recognized, grave consequences may result that so easily could have been avoided.

Most authorities are in accord as to the classical symptoms which are as follows: The sufferer appears to be uneasy, flushed, restless; he may perspire freely and present wet palms or moist axillae; his pupils may be dilated, his hands and body tremulous, his breathing rapid and shallow, his pulse accelerated, his tongue and mouth dry. He may suffer polyuria or diarrhea, may be nauseated and vomit, and may have a total loss of appetite. He may complain of insomnia and frightening dreams. He may experience cardiac pain and a sense of impending death. There are many more manifestations, perhaps of lesser importance.

There can be no real understanding of anxiety which does not recognize that emotional conflicts lie behind it and that the patient is unable to handle alone. The cause of anxiety may be the response to a sudden activation of an underlying emotional conflict by external or internal influences. Frequently the causes are largely unconscious or unknown to the patient. It should be emphasized that the anxiety state is in many cases the forerunner of a severe psychosis of a schizophrenic type, such as catatonic excitement. The patient may consult a physician on account of "jitters" or "nerves" and may have difficulty explaining to the physician his fears that he is losing his mind, or his concern about some personal matter equally terrifying to him. Too often the busy physician passes off the patient's complaints lightly and sends him away with a prescription for phenobarbital or an

allied sedative. His advice to the patient is to forget it, which he does by becoming psychotic.

If only the patient had been allowed to talk about his hidden fears to a sympathetic listener, a psychosis might have been averted. The physician, through reassurance, may enlighten the patient about the unreality of his worries and explain to him the nature of his impulses and reactions to his anxiety. So many times, if the physician would do this, it would mean the difference between sanity and insanity.

Upon investigation of the causes of anxiety in any given patient, in the majority of instances one finds that environmental disturbances have been present at the onset. These may be of great proportions, such as war or combat, or they may be very trivial and not suspected by the individual. Many factors may act as the precipitating factor. These may be purely physical, such as poor nutrition, physical exhaustion, accidents; or emotional factors may be predominant; also such things as financial worries, sexual incompatibilities, lack of adequate recreation or relaxation, domestic difficulties and frustrating circumstances. As a rule, early patterns of childhood behaviour, when investigated show that the patient suffered very early in life with emotional conflicts and anxiety states.

The most pressing problem in treatment is the immediate relief of the patient. Sedatives, as a rule, must be used at first, but great care should be taken not to allow the patient to become dependent on this type of treatment. It is essential that the fundamental causes of anxiety must be removed. Narcosynthesis, in the hands of a psychiatric specialist, through the use of such drugs as sodium amytal and pentothal sodium given intravenously for quick release of significant memories, has proved itself a valuable adjunct. Subcoma insulin therapy has also proved of considerable value in the treatment of anxiety, but this too should be administered only by one who is well trained in this field.

As a rule, the patient wants the assurance of a thorough physical examination. This should be done promptly. The examination should not be too lengthy. The negative findings should be presented calmly. Minor irregularities should not be told to the patient. The examiner should appear confident, competent and reassuring.

Psychotherapy is still the most effective treatment of anxiety or anxiety states. The cornerstone of psychotherapy lies in the patient-physician relationship. The general practitioner should realize that psychotherapy is his only effective tool in the treatment of anxiety states. If he feels that he is unable to administer psychotherapy in a satisfactory manner, he should certainly refer his patient to one who will use this important type of therapy.

In conclusion, I wish to emphasize that it is extremely important for every physician to be able to recognize patients suffering with anxiety or anxiety states. These cases usually respond well to therapy when it is adequately and efficiently administered. If not treated efficiently, the consequences are usually very bad. As has been said, it can mean the difference between sanity and insanity. In the hands of the general practitioner psychotherapy is certainly the treatment of choice.

RADIOLOGY

THE EARLY HISTORY OF RADIUM IN LONDON

A PRESENTATION¹ on early radium history is of special interest in that an account of treatment of a king is given and the information that most of the money for early work with radium at Guy's was made available by an American physician who later gave more than a million dollars to Memorial Hospital in New York.

Early in the century King Edward VII developed a rodent ulcer on his cheek. It was decided that he should have zinc ionization—a treatment which was then new. The King was in the habit of wearing a locket and chain round his neck, which had been given him by Maximilian, Emperor of Mexico. Sir Frederick Treves, who told me the story, was unable to explain just what happened, but His Majesty received a severe electric shock—through the chain. He was understandably annoyed. The electrotherapist was never received again and it was clearly impossible to continue the treatment.

Sir Malcolm Morris was dermatologist to the King and had always kept in touch with medical developments on the Continent. Radium had been used in London in small amounts with varying results. Sir Malcolm found that in Paris much larger quantities of radium were used and far better results obtained. He found out all the necessary details for treating a rodent ulcer and bought 22½ mg. radium at a cost of 362 pounds.

The King was impatient of any form of constraint and it was recognized that even if the radium were applied to the ulcer he would probably remove it before the period of cure was finished. So the radium was fixed to a pair of spectacles and this somewhat cumbersome combination was given to the king who was to put it on and read *The Times* for 20 minutes. The treatment succeeded admirably. The ulcer got well and there was no recurrence. The success caused one of the King's surgeons, Sir Alfred Fripp, to suggest to Sir Cooper Perry, the Superintendent, that radium be investigated at Guy's. Consequently the author

¹ C. E. Tredell, in *Proc. Royal Society of Medicine* (London), March, 1951.

was sent to Paris and visited several hospitals. The results on cases of inoperable malignant disease were remarkable—quite different from anything that he had ever seen. A second visit was paid to Paris six weeks later to exclude any possibility of his having been mistaken.

It had been discovered that radium gave off three different kinds of rays, called by the Greek letters Alpha, Beta and Gamma. The Alpha and Beta rays preponderated in quantity but had little healing property. On the other hand the Gamma rays, which formed only three per cent of the whole radiation, appeared to destroy cancer cells without doing any harm to the healthy cells around them. The Alpha and Beta rays were unable to penetrate a piece of lead one mm. thick. The Gamma rays penetrated lead of this thickness but in passing through it set up secondary radiation which had an irritating effect on the skin and in some cases appeared to increase the growth of cancer. To protect the skin from this secondary radiation 20 pieces of paper, four pieces of lint and two pieces of guttapercha tissue covered the lead over the radium which was then applied for 48 hours. Longer applications were liable to produce unpleasant effects such as malaise and a rise of t.

As a result of the report on the Paris visits, the Governors of Guy's purchased a radium applicator which soon attracted great interest and was seen and examined by large numbers of persons. The Prince of Wales, later King George V, on one of his visits to Guy's, said he wanted to see it. On the back of the applicator was the figure "500,000," which referred to its radio-activity, and he asked what it meant. Of the hundreds of laymen to whom the radium was shown he was the only one who asked this question.

King Edward VII's interest in cancer and radium was stimulated not only by its effect on his ulcer but also by the fact that his brother had died of this disease, and he asked his two friends Lord Iveagh and Colonel Ashley each to give 50,000 pounds to found an Institute for Radium Treatment. This was carried out. But the work done, though excellent, was much hampered by the fact that no provision was made for the treatment of in-patients.

In May, 1909, a visit was paid us which might have led—had things turned out differently—to London becoming the world centre for the investigation for the cure of cancer. Our visitor was Dr. James Douglas of New York. We had a discussion on radium and allied subjects, and an account was given him of the work we were doing at Guy's and of what had been seen in Paris; then he went to Paris with a list of hospitals it was suggested he should visit. The facilities for work with radium were much greater in Paris than in London, but it

happened that there were some cases at Guy's which showed in a very striking manner how much good could be done with radium.

Dr. James Ewing, the pathologist and cancer expert, decided to make Guy's the centre of his activities in trying to find a cure for cancer. With this object we accompanied him on visits to Dr. Lazarus Barlow at the Middlesex Hospital Cancer Research Laboratories, to Professor Strutt at the Royal College of Science, to Sir Ernest (afterwards Lord) Rutherford at Manchester, to mention only some of them. The latter at once agreed to recommend an expert physicist to equip and start a Laboratory to investigate the effect of radiation on living tissues. This, it seems, was the first Biophysics Laboratory to be instituted.

Dr. Douglas, then 74 years of age, did everything possible to facilitate the development of cancer research. In addition to the laboratory he provided more radium and founded a studentship of 300 pounds a year. He made a great point of visiting and seeing for himself what was being done for cancer at different hospitals. On the other hand the Superintendent and the Dean, who represented Guy's in the matter, never once went into the Radium department to see what was being done there. The Superintendent and the Dean wanted research to be carried out on mice in a Pathological Laboratory, while Dr. Douglas would have preferred investigations to be made on patients suffering from cancer.

Ultimately Dr. Douglas told me that he had come to the conclusion that Guy's was not interested in the cure of cancer by means of radium and that he did not propose to do any more for it. He continued to pay for the studentship and other commitments he had entered into and for years took an interest in all that was being done at Guy's. In December, 1913, he wrote: "I hope you are making some progress, though it does not seem to me that the atmosphere is very scientific and that most of the staff—not, however, including Mr. Arbuthnot Lane—are inclined to jog along in the old-fashioned way. You have a fine big pathological building but there seemed to be very few workers in it."

Dr. Douglas was the grandfather of Mr. Lewis Douglas, lately American Ambassador to Great Britain. He was the son of a Scots doctor who, after qualifying in Edinburgh and London, migrated to Canada where he became the leading surgeon. He was so unfortunate as to get into difficulties over some mining properties at an age when he could hardly hope to extricate himself. His son, Dr. James Douglas, made himself responsible for the debts, threw up the professorship of chemistry which he then held and went into business, becoming one of the richest men in the States.

One can sympathize with the sentiment expressed in the conclusion: "He spent 250,000 pounds on the Memorial Hospital in New York and vast sums in other directions. This was the largest sum spent on cancer research up to that time and it should really have come to Guy's."

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

HOSPITAL RECORDS

HOSPITALS that do not have an intern staff are experiencing difficulty in keeping clinical records. If the Boards of Trustees of these smaller hospitals are to gain and retain the approval of the American College of Surgeons and the American Hospital Association they are going to find the task more difficult than that of their problems of finance.

Many methods have been devised to get the doctors to write their records on their patients before the patient is discharged or within a short time thereafter. The hospital employs a historian, usually one capable of taking shorthand, to assist; or provides a dictaphone so that when the doctor comes in at any time of the day or night, he can dictate the records of his patient; or engages some young local doctor to write the records for the visiting staff. If any of these methods has worked satisfactorily, it has been the exception. When a staff doctor is excused from taking full responsibility for his records, there is no substitute.

Mankind is pretty much the same the world over. Most work is done for the purpose of gaining praise or escaping punishment. The writer wishes some small hospital would make staff promotions on faithfulness to duty at the hospital, in relations with both hospital personnel and patients. One way this could be done would be to appoint a records committee consisting of the business administrator, the chairman of the Board of Trustees and the present chief of staff, the last not eligible for reappointment the next year. The doctor who kept the best records would automatically be appointed as incoming chief of staff. He would be given recognition in the newspaper as the doctor keeping the best record and co-operating the most with the hospital during that year. This should stimulate a spirit of emulation which would result in greatly improved records. As far as I know this method has never been tried. It would not be difficult to work out and would be an experiment well worth what it would cost.

Another method which could be used in conjunction is that of mildly penalizing the doctor who failed to write his records and to do his part as a member of the team. The trustees must be prepared and expect to be criticized when they pen-

alize a doctor for failure to do his duty; however, if they will stick to their guns and demand that the business administrator of the hospital carry out their instructions, doctors can be made to write their clinical records promptly. The penalty usually advocated is loss of the privilege of admitting a patient to the hospital. Hospital trustees are not very faithful in backing the administrator up when the matter comes to an issue, particularly if that doctor with whom the administrator has had trouble about his records brings a lot of patients to the hospital. This is clearly a fault of the trustees and the administrator's hands are tied when he makes an issue of this problem with a staff doctor and the trustees decide that the doctor should be made an exception of because he is so busy. If he is so busy that he does not have time to take care of his records, then he should be able to hire some other doctor to look after them for him. If he is not that busy, he should have ample time to write his own records.

No doctor should be unwilling to devote the time to dictate clinical records, even though the hospital furnishes a historian who will help by taking most of the history. The doctor not only is neglectful of his duty as a staff member but also of his duty as a physician toward his patient. Second, if the doctor is penalized he frequently takes it with very poor grace. Another point is that the hospital administrator is forever called upon to settle arguments and disputes among his personnel, therefore, he becomes averse to instigating any controversy whatsoever. It is his definite duty, however, to see that the rules of the Board of Trustees are carried out.

The third and last point is the trustees should not look first to the financial record in judging the administration of a hospital. Neither should they look second to the number of patients that some doctor admits to the hospital. These are important, but the clinical records of mortality and morbidity of the patients come first in the best and most successfully operated homes for the sick.

Such recommendations as these can not be put into effect without the co-operation, whether given freely or on demand, of the medical staff. Energetic activity on the part of a business administrator who will not be intimidated by a medical doctor, and a Board of Trustees who will give their time and talents to familiarizing themselves with the operation of the hospital and back up the business administrator when he is right in demanding that the rules of the Board of Trustees be carried out by the staff doctors, just as they are to be carried out by the other personnel working in that institution, will go far toward solving the records problem, and a good many others.

GYNECOLOGY

RACHEL D. DAVIS, M.D., *Editor*, Kinston, N. C.

PRACTICAL OFFICE PROCEDURES IN GYNECOLOGY

MANY PROCEDURES for which the hospital is generally regarded as essential can be carried out by the physician in his own office, thus expediting diagnosis and facilitating early treatment. This is the keynote of an article by a group of Chicago specialists,¹ who go on to give details.

At the Cook County Hospital Outpatient Clinic hundreds of patients have diagnosis and treatment for various gynecological disorders. The instruments and methods employed are of the simplest type, yet extremely practical in their application. The procedures are the same as those employed in our private practice.

Cytological exam.: For obtaining a smear specimen a rotary motion of a wooden tongue-blade or a cotton-tipped applicator is used. Two slides are smeared, one with material from the os, the other with cells from the junction of the cervix, the slides immersed immediately in aa. ether and absolute alcohol for at least one hour. Several drops glycerin are placed on the smears and each slide covered with a dry slide for preservation. (Satisfactory for further staining and examination, and facilitates mailing for interpretation.)

If the lesion looks suspicious and the smear is negative, it should either be repeated, or multiple-punch biopsy made. If positive it must be confirmed by biopsy; 3 to 5 per cent may be false positives.

Biopsy: If smears are positive for cancer cells, several punch bits from the most suspicious areas—three or four—without anesthesia, at the squamocolumnar junction—identified by applying liberal amounts of Lugol's sol. to the cervix and wiping away the excess; normal tissue will stain a deep mahogany, abnormal tissue will remain unstained, or red. The tissue is placed in 10 per cent formalin, the biopsy sites covered with oxidized cellulose and a dry tampon—to be removed in 12 h. *Only after repeated negative biopsies can one regard the positive smear as false.*

Electrocauterization of the cervix for chronic endocervicitis, with or without eversion or ectropion, is the choice treatment. Since early carcinoma cannot be distinguished from an erosion, we routinely smear and biopsy all such cervices prior to cauter. The time for cauterization is 10 days after menstrual flow has ended. No subacute or acute pelvic inflammatory process is to be treated by cauter.

After the cauter is tested for proper heat, dull cherry-red as seen under ordinary illumination, I. W. J. Reich, M.D., et al., Chicago, in *Miss. Valley Med. J.* *1950*, May.

not in the bright gleam of a directing light—it is cooled in cold water. The cold tip is then inserted into the cervical canal, the heat turned on, and the canal cauterized at 12, 6, 3, and 9 o'clock. The tissue turns yellowish-gray; the area of erosion is then similarly cauterized, oxidized cellulose applied, on this a dry tampon, to be removed in 12 h. No douche or sexual activity for at least one week; return weekly four or five times for gentle dilation of the cervical canal with a simple cotton-tipped applicator.

The yellowish, bubbly discharge and the active trichomonads in a hanging drop make the diagnosis of *trichomonas vaginitis*. Vagina and vulva are thoroughly washed with 1-to-3 liq. antis. detergent in water, dried, and 20% argyrol, 40% kaolin and 40% B. lactose (Argypulvis)* is insufflated. The patient is given a sanitary napkin to avoid staining. Office therapy is two times per week, the remaining therapy done by the patient at home—an acid douche nightly, followed by insertion of a capsule of 2 grams of the above formula, three pin holes punched in both ends just prior to insertion. If, after a cure, the patient returns with an active case, focal sites of reinfection may be the urinary bladder, Skene's ducts, Bartholin's glands, rectum, cervix, or from digital contamination or bedpan splash. The husband's prostate, prepuce, bladder, or urethra may also be focal sites.

Monilia vaginitis: white-grayish plaques on vulva, vagina, and cervix; when these are wiped away, oozing ensues. The diagnosis is made by finding in a hanging-drop prep. elongated, segmented mycelia with buds. Use liq. detergent as above and paint the entire vagina with aa. 1% aq. gentian violet and acriflavin sol.; repeat two to three times weekly. At home nightly douches with 2 tbs. sod. bicarb. to a quart of warm water. Pregnancy is no barrier to treatment. In some cases, Propion jel** is supplemented in the home treatment with much benefit.

Pruritis vulvae: Rule out kraurosis vulvae, leukoplakia, trichomonas, monilia, lichen planus, and carcinoma. Zylcaine formula*** has given excellent results. A procaine wheal is made at each of four corners of the labia majora; with an 18-gauge spinal needle, 10 c.c. Zylcaine are injected deep subcut. into the labia on each side, 5 c.c. transversely across the rectovaginal septum and above the clitoris, care being made to inject as the needle is being withdrawn. The hair is not shaved. Vigorous washing with soap and water is the only preparatory measure used. Often relief is gradual over as long as eight weeks. Usually the patient is provided comfort within a few hours.

An effective method of destroying *condylomata acuminata* is to use 20% podophyllin in a hydro-

sorb.**** The normal tissue around the warts is protected by any anesthetic ointment, the podophyllin ointment applied directly to the growth and washed off in 4 h. The anesthetic ointment as needed will keep comfortable. The condylomata shrivel and disappear in one to two weeks. Most cases require only one treatment; if another is needed, allow 7 to 10 days to elapse. Podophyllin is not effective on the hard fibrotic-type wart.

Insufflation of the fallopian tubes for patency is easily carried out in the office; not to be done in the presence of acute or subacute pelvic inflammatory disease. The time is just before the mid-period. A simple Neal cannula is attached to sphygmomanometer inserted into the cervical canal (fits snugly), a tenaculum applied transversely on ant. lip of cervix and used for steadyng as well as counter traction. The air or CO₂ is then slowly pumped in, not to exceed 200 mm. Hg. If drops suddenly to about 90 and then more gradually, the tubes are open; if slowly, the tubes may be partially open or there may be spasm; if remains stationary at 150-200 the tubes are closed. Too much air or CO₂ is potentially dangerous (air embolism). The test is repeated one more time if the tubes appear closed.

*A. C. Barnes & Company
**Wyeth, Inc.

***Abbott Laboratories

****Abbott Laboratories

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

INVOLUNTIONAL MELANCHOLIA

A HOUSEWIFE, aged 50, who for thirty years had made every sacrifice for her family, and in so doing had worried for fear she would have means with which to educate her five children, began to grow apprehensive, to cry often and to wring her hands in her anxiety. Since her husband, an average farmer, was killed by a falling tree shortly before the birth of their fifth child, this lady had grown more irritable, overanxious, meticulous and worried, refusing for years at a time to set foot outside the house. Soon she began to refuse her food, lost weight quickly and to say that she had been responsible for a failure of the crops in consequence of which neighbors a mile away were threatening to pull out her stomach, liver, lungs, kidneys and internal organs by way of her mouth. She made two unsuccessful attempts at suicide. Hospitalized and given a course of nine electric-shock treatments, she made a complete recovery.

When a woman reaches the age of 42 and a man that of 52, a great number of changes take place within the body. The irritable behavior, headaches, hot flushes, profuse perspiration are characteristic of the menopausal lack of the ovarian hormone, estrin. The time of highest incidence of the menopausal syndrome is the 46th year; five years later comes a period in which a great number of women

experience difficulty. Some whose lives prior to the involutorial period conform to a particular pattern develop an involutorial psychosis. Though this may take various forms, we shall consider at present the term *involutorial melancholia*, a disturbance to which both sexes fall victims. An example of this condition is described in the case report abstract you just read.

Those persons have been overanxious, penurious, meticulous, over-conscientious, jealous, suspicious, inhibited, sensitive, prone to worry, activated by compulsions, or hypochondriac sensations, quarrelsome, intolerant, sexually frigid and narrow in their social contacts, spending most of the time at home where they sacrifice themselves to the needs and whims of the family are those who are prone when they reach the climacterium, to feel that for them the battle of life is lost. Apprehension, indecision and probably a marked depression ensue, and the thoughts turn toward death. Soon the victim, distressed to a tearful degree, begins to agonize, to wring the hands and pick the nails; and, as the melancholia fastens its clutches more firmly, the patient meditates on suicide.

Patients previously of schizoid characteristics are likely to exhibit schizophrenic traits in this melancholia. One is likely to show paranoid trends, to blame himself for trifling misdemeanors of many years back, or to develop nihilistic delusions along with belief, e.g., that mate and relatives no longer exist. If one suffers from bodily delusions, he may contend that, because he is a sinner, only a shell of a body, without any internal organs, remains to him. He may also hallucinate, contending, e.g., that 50 cannibals are threatening to cook him alive, in his wife's washpot.

Involutorial melancholia may terminate in suicide. Before the days of shock therapy, prognosis was poor, and the disease ran a long course. Today, in 80 per cent of the cases recovery results. Through the efficacy of electric shock, the duration of some cases has been reduced from years to weeks. In addition, rest in bed, sedation through drugs p.r.n., and through tub baths, proper feeding (oftentimes tube feeding is necessary), exercise, occupational therapy of a type requiring continuous interest, as in weaving, modeling, or sewing, and psychotherapy—all have their part in restoring the victim. In stubborn cases, the surgery known as prefrontal lobotomy may be used as a last resort.

The incidence of involutorial melancholia is one man victim to every three women. It is estimated that one person dies of the disease out of every five who develop it. For those developing this malady after reaching the 55th year, some authorities believe that prognosis is poor.

CALADRYL, a lotion containing Calamine, camphor, glycerine and Benadryl, is a valuable agent for the relief of itching, burning and smarting of the skin from any cause.

SURGERY

WM. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

PRURITUS ANI

THE MULTIPLICITY of remedies for pruritus ani testifies to the inadequacy of any one. This is due to a lack of understanding of the nature of the disease. Among etiological factors held accountable are nervous disorders, endocrine imbalance, allergy, incrotic infections, and chemical irritants. Tucker¹ considers the most important factor to be chemical irritation of the perianal skin by indole, skatole, and phenole which are end products of bacterial action upon meat proteins.

Treatment advocated is: Associated rectal lesions such as hemorrhoids, skin tags, crypts, and papillae should be removed. The perianal skin should be undercut by inserting the blade of a scalpel through the skin in the posterior commissure and passing it subcutaneously and laterally to the anterior commissure on either side. Emphasis is placed upon gentle and thorough cleansing of the perianal region and keeping it dry. Highly seasoned foods and meats are eliminated from the diet. The undercutting of the perianal skin may have to be repeated one or more times in the more refractory cases. Recurrence is likely to follow failure to adhere to the above regimen of anal hygiene and diet.

1. Tucker, C. C.: Cause and Treatment of Pruritus Ani. *Arch. Surgery*, March, 1951, Vol. 62, No. 3, pp. 428-436.

NITROUS OXIDE AS AN INHALATION ANESTHETIC

In a small general hospital, Fenster¹ has used Demerol IV as a convenient method of potentiating the anesthetic properties of nitrous oxide. Except with small children, this method has been in use on all type of cases, where general anesthesia is used. It was found particularly useful in the aged and poor-risk patients.

For this anesthesia premedication doses used were Nembutal gr. 1½, 90 min. before op., followed by morph. gr. ¼ or Demerol 100 mg. and atropine gr. 1/150 one hr. before op. Before the administration of nitrous oxide is begun, an IV dose of 25 to 50 mgm. Demerol is given. In some very robust patients, it was necessary to give 3 to 5 c.c. of 2.5% sol. Pentothal Sodium to facilitate a more rapid induction. During maintenance of the anesthesia, 25 mgm. doses of Demerol was given to maintain the required depth of anesthesia. Nitrous oxide was administered in a 50% mixture with oxygen, usually 3 litres of each. For relaxation 15 mgm. d-tubocurarine was given—particularly useful in procedures lasting more than three-quarters of an hour. Most patients recovered from

1. M. N. Fenster, Passaic, in *Jour. Med. Soc. New Jersey*, June, 1951.

the anesthesia rapidly with little or no nausea.

The method of anesthesia described could be used in any general hospital, caution being maintained in using the proper doses of drugs according to the age and virility of the patient.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

CLINICAL MANAGEMENT OF PEPTIC ULCERS IN GENERAL PRACTICE

A HOOISER DOCTOR¹ outlines a treatment which "can be carried on with a minimum of bother and expense during any type of work or vacation, including all-day driving."

See the patient every two weeks and dispense all medicine required: if a prescription is written the medicine will probably be taken indefinitely.

Routine: (1) Six feedings per day. (2) One teaspoon of Neutragel* after each feeding. (3) Milk of magnesia, alternated with Neutragel, in equal amounts p.r.n. (4) A capsule $\frac{1}{4}$ gr. Nembutal and 1.6 gr. belladonna** before every other feeding. (5) Reduce or abstain from smoking. (6) Get more rest physically, mentally, and emotionally.

First two weeks:

1 cup of chilled milk, 1 egg (dash of salt), 1 tbsp. sugar, $\frac{1}{2}$ tsp. Homicebrin,*** 4 heaping tbsp. Delmor or Delcos,**** according to taste of patient.

Flavor with vanilla, nutmeg, chocolate syrup, maple syrup, fruit flavoring or ice cream.

Instruct to mix formula to last a day. The feedings are taken in the morning, mid-morning, noon, mid-afternoon, evening and bedtime. If hunger or distress in middle of the night an additional feeding. The feedings may also be served hot; if so the Homicebrin should be added after the heating. If at the end of two weeks there is satisfactory response, other foods are gradually added—soft-boiled eggs, jello, custard or cottage cheese in addition to the six feedings. The patient is not to go hungry. Every two weeks, his condition remaining satisfactory, other bland foods are added until at the end of three months he is on a full, low-residue, bland diet. At this time another x-ray picture is made to evaluate treatment.

In every case but one there was complete healing of the ulcer. In this the patient persisted in working 16 to 18 hours a day, did not carry his prescribed food with him, and was very lax about taking capsules and Neutragel. The second three months trial treatment, following a lecture, brought about a healing of his ulcer.

Dr. Bowen has no inhibitions about saying what

J. O. R. Bowen, M.D., Bremen, in *Jour. Indiana Med. Assn.*, May, 1951.

he does know. He does not believe that every person under a doctor's care should be in a hospital, receiving at the hands of one or more nurses what is prescribed by one or more specialists. He preaches a wholesome doctrine.

*Neutragel is a brand of Aluminum Hydroxide Gel USP made by Fidelity Medical Supply Company.

**Nembutal and belladonna capsules No. 2 are made by Abbott Laboratories.

***Homicebrin is a liquid multiple vitamin compound made by Eli Lilly and Company.

****Delmor and Delcos are nutrient powder and nutrient granules made by Sharp and Dohme.

Write the author for a reprint.

HISTORIC MEDICINE

ITEMS OF INTEREST FROM THE SOUTHERN JOURNAL OF MEDICINE AND PHARMACY,

VOL. II, 1847

Edited by P. C. GAILLARD, M.D., and
H. W. DESAUSSE, M.D., Charleston, S. C.

A Remarkable Case of Malformation is presented by J. F. E. Hardy, M.D., Asheville, N. C.:

I enclose you a drawing of a remarkable case of malformation in a boy 14 years of age. I was undetermined for some time what sex it belonged to, but for the last year there has been an evident development of testes. I can not convey to you a better idea of the appearance of the mons veneris than by comparing it to the uneven surface of a mushroom of a scarlet red color.*

The whole surface bleeds from the friction of his shirt; this we have obviated, by lining his shirt over that part with oiled silk. The urethra is a mere groove open on the top and from which the water constantly drops; he does not show any desire to urinate; he never has any such sensation. There is no appearance of a penis whatever. The lad is well grown, tall but rather spare made, his general health good. His father tells me he rarely engages in any of the sports of boyhood. There is a deep shade of melancholy in his countenance, not an expression of pain, but a peculiar sadness, that it pains one to see in so young a person.

*Shown beautifully in the illustration which retains all its vivid color after 100 years.

Editorial comment on Surgical Anesthesia:

Sulphuric ether has acquired great celebrity in our country, under the name Letheon, for producing insensibility to pain during surgical operations. It was first employed for this purpose by Dr. Morton, a dentist of Boston, at the suggestion of Dr. C. T. Jackson of that city, in operations on the teeth. Patients are brought under its influence by inhaling the vapor from a very pure preparation of the ether. Drs. Warren and Hayward have operated on patients, to whom the ether was administered by Dr. Morton. In some persons there seemed to be complete insensibility; in others, considerable anxiety and agitation were produced, but they usu-

ally stated after the termination of the operation that they had felt no pain, but that their groans, etc., had been produced by unpleasant dreams, etc.: in others, the insensibility was only partial, but the pain was decidedly mitigated.

It is with extreme regret that we perceive that Lethon has been patented, and that Messrs. Morton and Jackson are endeavoring to sell the patents throughout the United States. We can not, however, suppose that any patient can prevent the use, in any way, of so well known and so commonly employed an article as sulphuric ether.

Henry R. Frost, M.D., Prof. Mat. Medica, Med. Coll. of S. C., on Ether by Rectum:

M. Marc-Dupuy has suggested (*Compt. Rend.*, *17. 5, 1847*) the injection of ether into the rectum, asserting, on the strength of his experiments on animals, that insensibility is produced as rapidly as when it is inhaled into the lungs; that none of the phenomena of asphyxia are produced, and that hence it is less dangerous thus administered, than when inhaled.

W. T. Wragg, M.D., Charleston, used Animal Ligatures:

The ligature substance I use is the deer sinew dried, stripped down and twisted, so as to form a small round thread of smooth and regular surface, inelastic and strong enough to withstand any degree of force that can be applied to it by the fingers in drawing the knot. In dissecting out tumors or performing deep operations, when small twigs are frequently cut, very small filaments are best. Animal ligatures are eminently adapted to our purposes. The thread are cut close to the knot, and the progress of the operation is not impeded by the hanging ends, no matter how many it may have been deemed necessary to apply. For upwards of 10 years I have been in the habit of using these ligatures, and for several years I have used none but these. In the course of this period I have tied the arteries of the fingers, hand, forearm, and arm, those of the leg and thigh—and I have never seen a symptom result from which I could infer that the knot had not been removed by absorption.

About Sulphate of Quinine, by W. O. Baldwin, M.D., Montgomery, Ala.:

When quinine was first introduced into practice in this country, and for many years afterwards, it was deemed safe to use it in our remittent fever in only very moderate doses, such as the $\frac{1}{8}$ or $\frac{1}{4}$ grain, given entirely during the remission; and well do we remember, the anxiety with which, in those days, the administration of the remedy was watched, lest it should affect the head, or lest the succeeding paroxysm should be increased in severity by its too early use. Now, many hesitate not to

use 10, 20, 40 grs., even 1 and 2 drs., at a dose, without any regard to the stage of the fever, or, we fear, the condition of the patient.

The quinine has been in some cases introduced into the stomach, in *others injected into the jugular vein, and into the peritoneum*. Its effects were equally exhibited, by each mode of administration, but not with more certainty or force, when given in one way than in another.

M. Double was the *first* who prescribed *this remedy*; he used it in six cases of intermittents with success, in 1820, in doses of from 8 to 24 grs., given during the apyrexia. Morton, in 1691, recommended the use of *cinchona* during all stages of febrile diseases.

Dr. Alquier, physician-in-chief to the military hospital of Algeria, considered 8 to 16 grs. quinine amply sufficient after the 2d or 3d dose in ordinary cases of intermittents; in pernicious intermittents he gave 16 grs. a day by the mouth and 20 or 30 grs. in an injection.

R. Dick, M.D. (*Lond. Med. Gaz.*, July, 1847), produces evidence that "a balanced diet" is no necessity:

In the Pampas of South America there is a numerous race who for weeks, months and even years, eat nothing but nitrogenous food. Their solid aliment consists exclusively of dried cow-flesh; their drink is water: they use no bread or vegetables.

Captain Abbott, also, in his *Travels from Heraut to Khiva*, informs us that the Kurrauks, a tribe of Tartars, live in summer almost solely upon the milk of their camels, mares, and sheep, without bread or vegetables, knowing only at long intervals the luxury of flesh: but, as the winter pasture can furnish but a scanty supply of milk, they kill, at the commencement of winter, all their old camels, horses, and sheep, and salt them, as a winter store. This meat is eaten without any accompaniment of bread or vegetable. Yet these are among the healthiest and hardest of our species.

A French Physician shows more Zeal than Discretion:

A. M. Deschamps has recently addressed a letter to the Academy of Sciences, in which he asserts that he has succeeded in discovering an infallible remedy for disease of the lungs, even when tubercles have formed. He has forwarded his recipe, and sent securities to the value of 70,000 francs (2800 Pounds.) to be forfeited in case the efficacy of his remedy should not be established by experience.

PRIMARY CANCER OF THE LUNG
(Evarts A. Graham, St. Louis, in *Bul. N. Y. Academ. of Med.*, May, 1951)

Bronchiogenic carcinoma has shown an amazing in-

creased incidence within the last 35 years and the increase seems to be progressive.

More and more evidence has been accumulated that excessive cigarette smoking is an important etiologic factor, although not the only one.

The great preponderance of the disease in the male sex is not due to any special immunity of females. Rather it seems due to the fact that, contrary to popular belief, many more men than women of the cancer age smoke.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

RHEUMATISM—UNITARY CONCEPTION AND CONTROL BY MODERN METHODS

A CONCEPTION of rheumatism which can not fail to attract interest, is that arrived at by a London physician¹ who has critically studied rheumatic processes over many years. His exposition of the subject at the First International Congress of Internal Medicine, held at Paris, September, 1950, is abstracted.

Rheumatism is the prototype of a great number of maladies, the cardinal symptom of which is pain. The pain is of muscular origin and arises from "myalgic spots" in the origin, insertion, border, or course of a muscle or its continuation, which cause referred pain and on pressure elicit a reflex-like jerking in any part and a grimace.

The patient is asked to map out on a chart, front and back, the painful skin areas at present, as well as those felt in the past 3 months. The painful areas are mostly characteristic. Lumbago patients delineate an oval or circular symmetrical area in the lower part of the back. The muscle or muscle group taking part in pain-producing contraction are palpated lightly with the finger tips; small areas are found harder to the touch. Press on these and on the origin, insertion and course of the muscle. A reflex-like jerking or grimace produced by pressure on a certain spot identifies it as a "myalgic spot." It is of the utmost importance to distinguish the objectively located myalgic spot from "sore spots" or "trigger points," the localization of which depends on the subjective sensation of the patient.

In rheumatoid and osteo-arthritis frequently objectively ascertainable myalgic areas may be distinguished in the muscles near the affected joints—myalgic spots *identical* with those of nonarticular rheumatism. These recurrent observations led the writer to formulate the hypothesis: arthritis, rheumatoid or otherwise, is primarily a muscular disease which leads *secondarily* to morbid changes in the joint structures. In the past two years, in 120 cases, mostly rheumatoid arthritis, myalgic spots in muscles, tendons and ligaments of the diseased

¹ M. G. Good, London, Eng., in *Journal-Lancet*, Minneapolis, Mar.

joints could be ascertained, in every case, characteristic for every individual joint.

Procaine injection of the myalgic spots appeared the method of choice, as in nonarticular rheumatism—the 2% solution, injected IM and into the tendons and ligaments, avoiding the subcutaneous structures, and never into the joint.

Of the 120 cases 80 have received the procaine treatment, with results most gratifying; it has proved possible to *control pain permanently*. In not far advanced stages of the disease, without severe and gross x-ray changes, the affected joint can be restored to a normal range of movements. Even in cases of many years' standing, up to 20 years, with severely damaged and wasted muscles, it has proved feasible to restore the function and range of movement without pain to a large extent. Joints for years with no movement possible have been made to move sufficiently for practical purposes. A number treated up to two years ago have had no recurrence of pain or other complaints in the joints treated. No intraarticular injection was ever made; only the objectively-located myalgic areas were injected.

As a rule, every spot needs to be injected, but only once; a second injection may be necessary to obtain a total relief. In the early stages of the disease it is possible to relieve pain fully and restore the full range of movement by three to four treatments. The edematous swelling often present in arthritis slowly disappears, so that the joints regain their normal contours. In many cases there is loss of weight, probably due to excretion of accumulated fluid in the periarticular and subcutaneous tissue spaces. Great improvement in general health and improved mood is the rule.

Certainly this method of treatment can do no harm; and procain is a lot cheaper than ACTH.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

MINOR AILMENTS OF THE FEET

FOR MANY YEARS this journal has considered the problem of foot ailments, wondered and even inquired why medical schools did not teach their students how to deal with these common ailments half as well as schools of chiropody teach their students.

In all these years, the article herewith abstracted¹ is the only one found dealing with this subject as one of any importance to doctors. After reading what follows, it may still be well worth our while to purchase a textbook of chiropody, and learn how chiropodists manage these ailments so skillfully as to be well paid in money and in gratitude.

Most corns are handled by the sufferers themselves. N. C. Lake, M.D., in *British Med. Jour.*, May 5th & 12th, 1951.

selves or by chiropodists; only the more persistent and troublesome ones reach the doctor. Deformed bones, enlarged joints, contracted toes, and so on underly corns (except seed corns and neurovascular corns) and share with the shoe in the causation. One structure in the foot may provide the counter-pressure for another, as in the case of soft corns in the fourth interdigital gap. Skin which has once produced a corn is apt to produce others.

Excision of an enlarged toe-joint might relieve the pressure, but there are few who would submit to this. Having a special last made, or having the shoe leather stretched over the critical point by carefully padded shoe-trees serves well in many cases. Treatment is frequent paring of the corn or callosity followed by protective padding. The central white core must be removed or the hard epithelium may be softened and exfoliated by local use of salicylic acid in collodion. This method often gives relief but is not curative.

In many corns a small fluid-containing sac forms in the deeper layers, and becomes infected *de novo* or after treatment. Drainage is easy and painless by skiving down the corn until the sac is reached. Corns over a hammer-toe or clawed toe may have a real bursa in the *dermis*; here drainage will be painful without anesthesia.

The second metatarsal is particularly prone to develop a callosity. A redistribution of the stresses is made by fitted and shaped pads and elevators.

Particularly in women the foot is plantar flexed, with a high rigid arch, clawed toes, callosities under the metatarsal heads, etc.—and pain on the plantar aspect of the anterior metatarsal region, from the fatty pad under metatarsal heads being constantly heaped forwards. The treatment of the condition is not easy, for the pads cannot be induced to retrace the movement. For the most part the condition must be accepted as a late outcome of high heels and a pad of sponge rubber or felt of suitable shape and thickness should be placed under the metatarsal heads.

Most of the so-called cases of flat-foot are not flat-foot. There is a true condition of flat-foot. In the first stages exercises of foot and leg muscles, with a light non-rigid support in the shoe built up along its inner border.

In the third stage it is sometimes best to leave the foot alone, since the condition is often not very painful. In the painful cases gentle manipulation combined with treatment for arthritis is advisable.

Most flat-foot patients find supports of value. Brief reference must be made to spasmotic and acute flat-foot. The former occurs in youths and is a forcible eversion produced by spasm of the peroneal muscles; temporary cessation of spasm when the joint is injected with local analgesic. Treatment in severe cases consists in over-correction un-

der anesthesia followed by retention in a plaster case. Acute flat-foot arises after some particularly strenuous exertion. Rest and massage for a few days are all that is necessary.

In early cases of hallux valgus in young patients a good deal can be done by the use of corrective appliances; for the more advanced cases operative treatment is required.

In hallux rigidus the cause is an osteoarthritis of the metatarso-phalangeal joint producing osteophytic ridges which mechanically limit the movements of dorsal and plantar flexion. The treatment is surgical. In a 2d type of hallux rigidus, seen in youth, there is no x-ray evidence of joint change. The rigidity is muscle spasm secondary to a synovitis, toxic or traumatic. Injection of local analgesic into the joint relieves temporarily, occasionally permanently.

Hammer-toe is often secondary to hallux valgus, in some cases congenital. If mild, a protective padding and a sandal to which the toe is strapped serves; in severe cases excision of the interphalangeal joint so that bony union can occur between the phalanges in the straight position.

Footwear is a minor factor in the development of ingrowing toe-nail. cutting the nail too short a major. Once a nail is embedded it is difficult to trim the nail across right up to the edges and so a splinter of nail grows forwards on each side into the pulp. Careful removal of the whole of this splinter forms an important part of the treatment. In slight cases, the nail groove cleared and any granulations touched up with the silver stick, a small piece of metal foil or gauze packed under the nail border and brought up over the prominent roll of skin. Sulphonamide powder overcomes infection. "In persistent or recurrent cases I recommend amputation of the end of the toe, with the whole of the nail and its bed, through the terminal phalanx, using a long plantar flap to cover the end. This operation gives a quick result, can be relied upon to be permanently successful, and causes no disability beyond the cosmetic effect of loss of the nail. Other surgical methods can be practiced, but are less satisfactory."*

With increasing age many toe-nails become more curved, the lateral borders roll over upon themselves and are thus very difficult to trim. Pain arises from pressure but suppuration is rare. A small corn adds to the discomfort. The lateral groove must be kept clear of all debris or hypertrophy, and the nail, which is usually unduly hard, must be trimmed with nail nippers. The occasional application of epithelial softeners, hydrogen peroxide or KOH** to the groove is also of value.

Ram's horn nail arises after a gross injury to the nail-bed or in the aged from vascular deficiencies in the nail-bed. It is often found in the bed-

ridden; it precludes the wearing of ordinary shoes and is so hard that the patient is quite unable to trim it. If the whole nail be removed the new one is as bad as the old. In the young the treatment is amputation through the terminal phalanx. In others the chiropodist may be able to reduce the nail to reasonable proportions by the use of his nippers and nail drills, often combined with some softening agent.

Warts of the sole are unique in that they become pushed deeply into the tissues, leaving a flat smooth surface. For this reason they are often difficult to diagnose and resistant to treatment. Typically they are found in teenagers, especially girls. They can be transferred from individual to individual, from one foot to the other, or to fresh areas on the same foot. Suspect a verruca if you find in a young person an apparent callosity in an unusual situation—e.g., the hollow of the instep—which gives a throb of pain as the finger is removed.

No entirely reliable treatment. A small verruca may disappear spontaneously. The chiropodist skives down the cornified tissue until the tips of the papillae are just exposed and then applies some caustic material—monochloracetic or trichoracetic acid, pyrogallic acid, nitric acid, formaldehyde. The process has to be repeated many times for large growth and is not painless. Cauterization with a Paquelin or electric cautery, but better with diathermy is valuable. These warts extend deeply, so thorough anesthetization is essential if the whole growth is to be destroyed. This may be combined with curettage, but not complete excision, as there is great tendency to recurrence in the scar. In extensive and resistant cases thorough diathermic cauterization gives the best chance of cure. The wound left is deep, but not very painful, will heal slowly with simple stimulant dressings. As the condition is very contagious it is necessary to institute measures to prevent the spread of infection to others.

*Sounds pretty drastic.—Ed.

**Be chary of using KOH.—Ed.

PERIODIC SIALORRHEA

(H. A. Reimann & John Lingquist, in *Trans. Col. Physicians of Philadelphia*, Feb.)

A woman of 42, shortly after last few teeth were removed for arthritis in 1948, had episodes of excessive salivation which lasted a day or more and recurred every six to 10 days. At the same time there were occipital pain, soreness of the right side of the mouth and pain in the chest. The patient was studied at another hospital for three months a year ago and the many laboratory and other tests gave normal results, except for persistence of eosinophilia of 23 to 44%. Trichinosis, periarthritis and Addison's disease were suspected, the latter because of hypertension.

Patient was in Jefferson Hospital in 1948 for three months, only abnormality was bilateral palpable, firm, non-tender submaxillary salivary glands, the r. larger. All lab. studies gave normal results except for eos. of 30 to 44%. A sialogram showed normal salivary glands, except that the

right one was enlarged; 12 episodes of sialorrhea were observed at intervals of six to 12 days. Menstrual periods have no relation. No benefit reported.

Editorial comment.—An illustration of one reason for scarcity of hospital beds.

ABDOMINAL EPILEPSY

(M. T. Moore, in *Amer. Jl. Med. Sc.*, 220:87, 1950)

Paroxysmal abdominal pain and perhaps other gastrointestinal syndromes may occur as a form of epilepsy without convulsive seizures or loss of consciousness.

Attacks are usually misinterpreted and all too often lead to futile operations. Sudden brief recurrent episodes are suggestive. The diagnosis is confirmed by response to anticonvulsants.

Cerebral injury, brain tumor, tuberous sclerosis, or scoliatinal encephalopathy were noted in half of 18 cases.

Seizures are precipitated by the usual epileptic factors. Pain may occur alone or associated with ill-defined sensations, nausea, vomiting, diarrhea, pallor and sweating, clonic abdominal movements, rumbling sounds, nightmares, or postictal exhaustion.

If the lesion is not bulky or degenerative, response to anticonvulsants is usually gratifying. Symptoms and electrograms are completely controlled or greatly improved by the initial therapeutic test.

Dilantin sodium, mesantoin, phenobarbital, and bromides such as alkaline or calcium bromido-galactoglucone are employed in flexible combinations. Other related disorders, whether constitutional, infectious, or metabolic, receive special care. Diet is regulated and guidance offered in social and emotional problems.

ORAL USE OF CORTISONE EFFECTIVE IN RHEUMATOID

ARTHRITIS

(E. W. Boland and N. E. Headley, Los Angeles, in *Jl. A. M. A.*, Jan. 6th)

In 22 of the 23 patients, oral preparations were "highly effective" in suppressing the activity of the disease or maintaining control of the rheumatic manifestations. Results were best when the drug was taken in divided doses throughout the day instead of in one large dose. Effects of the drug were noted in from 5 to 48 hours when given orally. This is in contrast to the 48 to 72 hours usually required with intramuscular injections.

We are warned that: Many more facts must be ascertained before this powerful hormone with its many physiological actions can be considered as a safe therapeutic agent for general distribution and use.

NEW TEST GIVES WARNING OF BLEEDING TENDENCY

(A. J. Quick, M.D., Milwaukee, in *Jl. A. M. A.*, Jan. 6th)

Hemophilic patients—so-called bleeders—says this teacher in Marquette University School of Medicine and Milwaukee Children's Hospital, need not be left to the care of specialists but usually can be cared for by the family doctor. A new test—called prothrombin consumption test—is proving valuable as a warning that a hemophilic condition exists in certain patients. In a surprisingly large number of hemophilic no positive family history is obtainable.

Abnormal bleeding after tooth extraction or a minor operation is sometimes the first sign, and in some cases the only sign, of a bleeding tendency. The application of cold (an ice bag), the use of a pressure bandage, if the site of the injury permits, and complete rest of the joint were named as three essentials for immediate treatment following injury.

LET them take a lump of figs and lay it for a plaster upon the boil, and he shall recover.—*Isaiah* 38:21.

OBSTETRICS

H. J. LANGSTON, M.D., *Editor*, Danville, Va.

Skin Infiltration Anesthesia in First Stage of Labor*

The Abrams technic:¹ The block is instituted as soon as the patient is in active labor. There are no positive contraindications to the method. Sensitivity to the local anesthetic may prevent its use. Sensitivity to "Metycaine Hydrochloride" (Piperocaine Hydrochloride, Lilly) is rare, and it was this drug with which Abrams produced the most satisfactory block. Abrams added epinephrine hydrochloride to the "Metycaine Hydrochloride" solution. When the use of epinephrine is inadvisable, "Metycaine Hydrochloride" may be used without a pressor drug.

The skin of the abdomen is cleansed. Mercurial antiseptics are optional. By means of a 25- or 26-gauge needle, an intradermal wheal is first raised $1\frac{1}{2}$ in. above the symphysis, the wheal extended toward the ant. sup. iliac spines for 5 or 6 in. on each side. The wheal above the symphysis is then extended up the midline of the abdomen for $2\frac{1}{2}$ in. The infiltration is extended laterally for one inch. This completes the procedure on the abdominal wall. Using a 5- or 6-in. stainless-steel, malleable needle of high tensile strength, the number of skin punctures can be greatly reduced. The smaller one is used to initiate the block by advancing the needle $\frac{1}{2}$ to 1 in. at a time before each injection until the blanching occurs. Progression of the needle is accomplished by slow rotation and exertion of enough pressure to pass it further along its course. It requires 30 c.c. of local anesthetic solution to complete the block in the abdominal wall.

The block in the posterior wall is performed by rasping a wheal in the skin just above the upper aspect of the sacrum. The wheal is extended laterally for 3 in. on either side. When backache persists, the initial wheal may be extended caudad along the prominence of the sacrum. 20 c.c. of the solution will usually suffice for this portion of the block.

In Abram's experience, 1.5% of "Metycaine Hydrochloride" in Ringer's Solution provided a more profound block than the other local anesthetic solutions employed in the study. The effect could be prolonged with epinephrine hydrochloride 1:200,000. Ampoule No. 400, "Metycaine Hydrochloride" Solution, 1.5%, in Ringer's Solution, contains 200 c.c., sufficient for four average blocks. On the large obstetrical service, it is recommended that 0.8 c.c. of epinephrine hydrochloride, 1:1,000, be added to each Ampoule No. 400. It may be prudent to withdraw 50 c.c. of the "Metycaine Hydrochloride"

solution and fortify this with 0.2 c.c. of epinephrine hydrochloride, 1:1,000. Unless special preservatives are added, epinephrine hydrochloride is unstable in the presence of local anesthetic solutions; therefore the pressor drug and "Metycaine Hydrochloride" should be used promptly after they are combined.

The effect of a single such block has ranged from 4 to $6\frac{1}{2}$ hours. In the multiparous patient having no complications, a single block will suffice for the first stage of labor. In the primiparous patient, it is occasionally necessary to repeat the block. First-stage labor appears to be shortened. Much of the apprehension associated with the ordeal of labor is removed and involuntary tension and spasm of skeletal musculature are reduced. In apprehensive patients, barbiturates and the opiates may be indicated. Most patients pass the first stage of labor in such recreation as reading or playing cards. The patient remains aware of uterine contractions but suffers no pain.

Intradermal infiltration provides relief during the first stage of labor only. Necessary provision must be made to relieve pain during the second stage of labor as the patient's need may indicate. The presenting part, in descending, stretches the birth canal and impinges on the hollow of the sacrum.

If discomfort recurs in 4 to 6 h., rectal examination is made, to determine the station and position, and degree of cervical dilatation. It will usually be found that cervical dilatation is complete and the head has descended well into the birth canal. A repeat block at this time will not provide relief.

As anesthesia for the second stage and delivery, for the primipara, saddle block will probably be best. In the multipara, in whom completion of the second stage of labor usually is rapid and the perineal floor is not too rigid, simple pudendal block will be found highly effective. Inhalation anesthesia is optional on services where pudendal or saddle block are not routinely employed.

ASCORBIC ACID, orally, 500 mg. to adults, 100 mg. to small infants, relieved itching and paresthesias and cleared rash of prickly heat in persons living on humid, hot tropical islands and others in a hot desert area.

—R. L. Stearn, *J.A.M.A.*, 145-157, 1951.

CHRONIC PROSTATITIS: To intraprostatic injections of penicillin 30 patients with long standing infections, 19 (63.3%) made good response and remained well for more than six months. Five injections of 500,000 units aqueous penicillin given at 5- to 7-day intervals are considered an adequate trial.

—W. E. Hatch, *J. Urol.*, 64-763, 1950.

BENADRYL is helpful for relief of nausea and vomiting of pregnancy. In one series of recorded cases, antihistaminic therapy afforded relief in 72 or 75 patients with nausea and vomiting of pregnancy.

—R. C. Black, *Med. J. Australia*, 1:853, 1950.

1. *Physicians Bulletin*, July-Aug.

PRESIDENT'S PAGE

DR. JAMES ASA SHIELD, Chairman of the Program Committee, is preparing a questionnaire for the members of the Tri-State which will probably be in your hands before you see this page. The object of this, as expressed by the Council, is to give the membership an opportunity to express its desires as to the program for our Roanoke meeting, to give ample time to any who wish to be on the program, to get suggestions as to ways and means of reaching more doctors in the three States and to get suggestions that might be used to make this a greater and more useful organization.

The business and administrative affairs have been wisely delegated almost entirely to the Council, which is composed of three members from each State and the past presidents. This leaves those of the membership attending the annual meeting a chance to enjoy unhampered the program and fellowship. However, we know many ideas occur to the membership that could be successfully used if passed on to the officers in charge at any particular period.

This is your organization and it will only move forward on the interest and enthusiasm of the individual members. So not only answer your questionnaire promptly and fully, but write in supplementary information and suggestions at any time.

Your officers earnestly desire that you obtain applications for membership from those of your area who would make desirable additions to our splendid group who have been faithful over the years. We must continue to bring in new blood or our organization will become weak and anemic.

If you do not care to appear on the program next February, you probably have in mind some speaker of unusual ability who has a vital message that we should hear at this time.

Let us all give the Program Committee and the officers every assistance and encouragement possible.

W. R. WALLACE

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JAMES M. NORTHINGTON, M.D., *Editor*

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As is true of most Medical Journals, all costs of cuts, must be borne by the author

SUICIDE PREVENTION

AN IMPORTANT part of a family doctor's duty is the doing of everything possible to keep his patients from taking their own lives. I have asked many psychiatrists for an article such as the one¹ the substance of which is here gratefully transcribed for the good of some poor souls, tried beyond their strength.

Suicide is the leading cause of death in psychiatry except in the oldest age group. In 1947 the rate of suicide was 11.2 deaths as compared to 23 deaths per 100,000 population due to motor-vehicle accidents. The majority of suicides occur in patients who are severely depressed, but almost any type of mental disorder may cause a person to kill himself. Three chief types of depression are said to demand special consideration on the part of the practitioner: (1) Manic-depressive depressions and involutional melancholia. Involutional melancholia is a loose group in which are included various agitated depressions of middle aged and older patients. (2) Depressive reactions which occur in organic illness such as paresis, cerebral arteriosclerosis, brain tumor, and various circulatory disturbances. (3) Depressions that arise in reaction to obvious external causes that might naturally produce sadness such as sickness, bereavement and business difficulties. The differential diagnosis of reactive depressions and manic depressive depressions is not always easy, and if the depression is severe the differentiation is unimportant since the therapy is the same: prognosis, however, is different.

It is recognized that suicides are frequently scattered through a family history, indicating a constitutional predisposition to depressive tendencies and suicidal reactions. In establishing motives for suicides, suicide notes and information from relatives are of little value, the real reasons being often concealed rather than revealed. Sickness, disability, death of relatives or friends, financial worries, pregnancy and frustrated love affairs are given prominent places as motives for suicide. While these factors may be of importance, generally speaking personality reactions of a more serious nature are responsible.

Depressions are never to be taken lightly. Many "minor depressions" are never recognized. Mild or subacute depressive episodes may be passed off as ordinary fatigue, laziness or worry. The patient frequently complains only of physical symptoms. Even on direct questioning, when he does admit despondency, he attributes his mood to body ailments.

¹ J. R. Eidelman, M.D., St. Louis, in *Jour. Missouri Med. Assn.*, June.

The alert physician will look for symptoms suggesting emotional and depressive disturbances—a feeling of pessimism and dejection, loss of interest in things or persons, feeling of inadequacy, difficulty in making decisions, loss of initiative and self-confidence, slowing in walking and talking, weeping spells without apparent cause, agitation, ideas of guilt, self-depreciation and self-accusation, severe insomnia.

If such depressive delusions are persistent the likelihood of suicide is much increased.

Coldness toward previously loved ones or the doctor should not be lightly regarded.

The simplest way to discover suicidal intent is casually asking, "Well now, everybody who feels this way has a few suicidal thoughts, have you had any?" If the patient answers affirmatively the questions may be further pursued as to methods and reasons. The patient who is afraid he is going to commit suicide is often not so much a problem as the person who looks upon death as a release. The physician can contribute much to the prevention of suicide by keeping these depressive symptoms and danger signals in mind.

One should determine whether the depression is primary or masks organic brain disease, schizophrenia or various somatic diseases. If the depression is severe, hospitalization is necessary, but not all patients can be hospitalized. One must at times take chances in order to help the patient and the family but the family must share the responsibility.

A high-calorie diet usually is indicated. Constipation should be prevented. Opium is a valuable drug in depression, particularly in the elderly. One-fourth to a full grain of powdered extract or 5 to 30 drops of tincture from one to six times daily may relieve. Addiction need not be feared. Barbiturates are extremely helpful; to be worthwhile the doses must be adequate. *The patient usually can tolerate much more of the drug than the average patient.* Sodium amyta gr. 3 h.s. repeated as necessary to insure a good night's rest. Chloral hydrate gr. 10 to 20, sodium bromide gr. 15, separately, or in combination with barbiturates. Drugs of the amphetamine group are of some value.

If the patient is unable to work, then walking, golfing, riding or other outdoor activities as weaving, painting and other art and craft work are valuable. Strenuous physical activities and mental and social contacts may be postponed. Occupying the patient's time is an important part of therapy. Change of environment is usually of no benefit.

Psychotherapy is part and parcel of medical practice. The attitudes and actions of the physician are more important than his words. The physician must by his acts and attitudes indicate to the patient that he cares for him, is interested in

him and is eager to help him, listen to a thorough history and perform a good physical examination. Psychotherapy of depressive cases must permit the patient to free his mind of his problems and should provide reassurance.

Positive counsel must be given as to work and activities and the patient encouraged to bring up his problems. The physician need not delve into early childhood situations nor deal with unconscious conflicts. The patient needs guidance in a practical way about immediate and concrete problems.

Sexual activities should be prohibited in depressions of any severity, not be resumed until the patient has practically recovered.

Electric-shock therapy is almost specific for depressive patients, whether of manic-depressive origin, involutional melancholia or reactive depressions; changing dejection to cheerfulness, insomnia to sound sleep, anxiety to calmness, all in a brief period. Ideas of hopelessness and self-accusation are often lost within two to three weeks. Electric-shock therapy should be administered promptly if the patient does not respond to medical and psychotherapeutic measures.

In many cases it is feasible to administer electric-shock treatment to an outpatient. Again it must be emphasized that the family must share in this responsibility; suicide is always a possibility, usually until several treatments have been administered.

ACUTE PERFORATION OF GASTRODUODENAL ULCER TREATED CONSERVATIVELY

WE HAVE all been taught that immediate operation is imperatively demanded in every case of acute perforation of a peptic ulcer. An Englishman¹ says not, gives his reasons, and cites cases in support of his contention.

In the best surgical hands the mortality rate—acute perforation of peptic ulcer—even when the simplest procedure for closing the perforation was used—was for a long period 15 to 18 per cent. However, recent figures show that this rate has dropped to 4 per cent. It will have been noticed, when operating on these patients, that in a large percentage of cases the opening in the duodenum or stomach had already become sealed off. The question arose: Is it helpful in these cases to open the abdomen and close the perforation that is already sealed off, or in any case will become sealed off very soon?

Taylor (1946) reported a series of 28 such cases which were treated conservatively. In three of the four fatal cases necropsy showed that the perforations had become sealed. In a further series of 73 cases (1951) Taylor had seven deaths, five of

1. Edmond Scott, M. D., in *British Med. Jour.*, March 31st.

which were unrelated to the method of treatment. In every perforation the peritoneal exudate is purposive and protective, and its loss in laparotomy, through spilling over and the use of the swab and suction pump, is a serious thing for the patient.

The routine conservative treatment adopted in the present series of 15 cases, except Case 12 was as follows: Continuous suction, by means of a Ryle's tube attached to a silent electric motor maintained till the withdrawn fluid had been bile-stained for six hours. Such staining is an indication that the pylorus is patent. It is essential to watch the drainage carefully, because the Ryle's tube with its small bore gets blocked very easily. Patency of the pylorus was usually established in 48 to 72 hours. Glucose-saline 5% was given IV. (It may be that a hyalase drip would do as well.)

Morphine, 1/6 gr., q. 6 h. for 3 or 4 doses. Rigidity disappeared after 24 generalized tenderness in 48 h., tenderness at the site of perforation in 72 to 96 h. Penicillin, 40,000 or 60,000 u., q. 4 h.; three patients were given sulphonamides also. In Case 12 chemotherapy was not employed in the early stages; this patient developed a subphrenic abscess.

Deep-breathing exercises are of value. Sips of water from start help to keep the mouth moist and clean, and to lessen the irritation from the tube. When the tube is removed, diluted milk is given, and gradually the usual ulcer diet is built up.

Fifteen cases of unselected perforated gastroduodenal ulcer without fatality are recorded. One developed a subphrenic abscess which required drainage; 10 were kept in hospital longer than necessary simply for observation purposes, but all except Case 7 make a speedy recovery.

What the ultimate fate of these patients will be it is not possible to say: only Case 5 has been submitted to operation. All the others left hospital symptom-free, though on strict ulcer diet. Case 12 should be subjected to gastrectomy if the gastric ulcer is still present on review.

In the follow-up 13 of the 15 cases were seen almost 12 months after perforation, and their condition was at least no worse than if they had been subjected to an immediate operation.

It is suggested that immediate operation in simple gastroduodenal perforation is no longer necessary, and that any operative intervention should be reserved for such complications as may arise. Since this paper was written further cases have been similarly treated with equal success.

As Dean E. P. Lyon so frequently adjured every doctor who came in reach of his teaching: "How much of what everybody knows to be true; is not at all true"!

THE OSCAR EWING OF THE EIGHTEENTH CENTURY

THIS from *North Carolina Cancer News*, Spring issue:

"One hundred and fifty years ago Horace Walpole said, 'About the time I die, or a little later, the secret will be found how to live forever.' Helen Bevington recently answered:

'Horace, be comforted to die:
One Century has meandered by
And half the next since, it was true,
The temporal state eluded you.
Now, as I read your pensive letter
I wish myself that times were better
And I might boast how men contrive,
As you foretold, to stay alive
By now we should possess the key
To fleshly immortality
And, if we wanted to, endeavor
To live forever and forever.
This, to my infinite regret
Is not a custom with us yet.
I write you Horace for good cheer
Life is about as usual here.'"

Horace Walpole, fourth Earl of Orford, lived from 1717 to 1797. In 1741 he took his seat in parliament; but he had no taste for politics, and never took active part in public life. In 1747 he purchased a piece of ground, with a villa, near Twickenham, on the banks of the Thames. Here he built a huge Gothic mansion—Strawberry Hill, which he made a museum of every kind of curiosities. Macaulay characterized him thus: "The conformation of his mind was such that whatever was little seemed to him great, and whatever was great seemed to him little. Serious business was a trifle to him, and trifles were his serious business."

This is the Walpole, who, unable to answer the arguments of Pitt, sneered at his youth, and brought on himself the scathingest retort ever heard in Parliament, which concluded with: "I shall content myself with the hope that I shall not be among those whose years have only added obstinacy to stupidity, and in whom the vices persist when the passions have subsided."

MR. OATES' BOOK.—In this issue is carried a review of *The Story of Fayetteville and the Upper Cape Fear*, a book eagerly anticipated since learning, at the 1950 meeting of the Tri-State Medical Association, that it was in preparation. All who took part in that meeting remember with delight and gratitude the scholarly address of Mr. John A. Oates. This *Story* is after the same fashion, on a much larger scale. You and your friends will find it a rare treat.

NEWS

DEPARTMENT OF MEDICINE, UNIVERSITY OF VIRGINIA

Dr. S. W. Britton, Professor of Physiology, has been appointed Visiting Professor of Endocrinology at the University of Nigeria, British West Africa, and will leave for Africa in February, 1952. Announcement of the award of the visiting professorship was made by the Department of State, under terms of the Fulbright Act. During his stay in Africa, Dr. Britton will continue his investigations on endocrine involvement in maintenance of the upright position, using primates available in the region.

Dr. Britton will be on leave of absence from the University of Virginia during the second semester and will retire at the end of the year, after 24 years of service.

Dr. George Cooper, Jr., Associate Professor of Roentgenology, was awarded the American Cancer Society's 1951 Medal, May 18th, in recognition of his contributions to the control of cancer. Dr. Cooper is medical and scientific director and a member of the Board of Trustees of the Virginia Division, American Cancer Society and chairman of the cancer committee of the Medical Society of Virginia. Last year's American Cancer Society Award for Virginia was presented to Dr. Edwin P. Lehman, Professor of Surgery and Gynecology.

The new Virginia Hearing Foundation at the University is being organized under the direction of Dr. Fletcher D. Woodward, Professor of Otolaryngology, and Dr. James M. Mullendore, director of the Speech and Hearing Center at the University. The Foundation will offer a training center for specialists in diseases of the ear and will provide a complete diagnostic clinic. Future plans include the setting-up a full-time traveling clinic, which will travel throughout Virginia conducting hearing tests.

Dr. Woodward retires as Chairman of the School of Otolaryngology July 1st, after 26 years of service, but will remain active in the teaching and clinical programs. Dr. G. Slaughter Fitz-Hugh, Assistant Professor of Otolaryngology, will succeed Dr. Woodward as Chairman of the Department.

Dr. Halsted Hedges, Emeritus Professor of Ophthalmology, was honored for his 52 years of service by the Virginia Society of Ophthalmology and Otolaryngology at its 32d annual meeting May 12th in Roanoke. Dr. Hedges, the first member of the Society to be so honored, has been a member of the medical faculty since 1899.

Dr. Douglas E. Bragdon, Assistant Professor of Anatomy, has received a grant from the Committee on Research in Problems of Sex of the National Research Council, for studies on the corpora lutea of ovoviparous snakes.

MEDICAL COLLEGE OF VIRGINIA, RICHMOND

On June 5th the College awarded 298 degrees or diplomas at its Commencement ceremonies at the close of the 114th session. Ninety-five of these degrees were in medicine, 44 in dentistry, 51 in pharmacy and 59 in nursing. Forty-two certificates were awarded in physical therapy, and seven in hospital administration, the members of this group being the first to complete the new 18-months' course in hospital administration.

The honorary degree of Doctor of Science was conferred upon Dr. Claude C. Coleman, pioneer in neurosurgery, that of Doctor of Laws upon State Senator Lloyd C. Bird, a graduate of the School of Pharmacy in 1917. Miss Nora Spencer Hamner, a graduate of the School of Nursing, was given the degree of Master of Science in Nursing. Miss Hamner is the first woman to receive an honorary degree from the Medical College of Virginia.

Dr. C. C. Coleman, Professor of Neurological Surgery and chairman of the department, has resigned from his teaching duties after 42 years of service. He will continue to do consulting work at the college. A resolution passed by the Board of Visitors cited Doctor Coleman as "a man of incisive qualities of mind, a capacity for endless curiosity and with a scientific skepticism tempered with sensitivity for human values."

Mr. E. Claiborne Robins, of Richmond, was installed June 4th as president of the Alumni Association at the annual meeting. Dr. H. Hudnall Ware, Jr., Professor of Obstetrics, was named president-elect. Dr. Don Daniel, of Richmond, is the retiring president.

Dr. Randolph H. Hoge, Professor of Gynecology, and Dr. A. B. Gathright, Jr., Assistant Professor of Clinical Medicine, gave a series of lectures on cancer June 4th-June 9th throughout the State of Montana. The talks were sponsored by the Montana Medical Association and the Montana State Board of Health.

On May 21st-25th a course in "Nursing Care of the Poliomyelitis Patient" was held at the College. The training course, sponsored by the Richmond-Henrico Chapter of the National Foundation for Infantile Paralysis, was well attended by nurses from over the State.

In addition to several adjunct faculty promotions, the following major faculty promotions effective July 1st have been announced: The School of Medicine—Dr. James F. Blades, Dr. William R. Hill, Dr. John R. Massie, and Dr. T. Duval Watts, Assistant Professors of Clinical Surgery. The School of Dentistry—Dr. William J. Longan, Assistant Professor of Oral Surgery; Dr. Charles J. Vincent, Associate Professor of Pedodontics; and Dr. Ralph M. Roberts, Associate Professor of Oral Pathology. The School of Pharmacy—Dr. J. Doyle Smith, Associate Professor of Chemistry.

DUKE UNIVERSITY MEDICAL SCHOOL

Dean W. C. Davison has returned from a six-week inspection of the Atom Bomb Casualty Commission, this country's long-range medical study of what happened to the Japanese survivors of the atom bombing in Hiroshima and Nagasaki.

Early data show that two conditions have occurred at "higher than usual rates":

1. Cataracts of the eye are more numerous among those who survived.
2. Leukemia (blood cancer) has been more frequent. The incidence is still extremely low.

Dr. Davison says, "negative results are fully as important as those which indicate radiation effects, if only to still some of the current hysteria."

The Duke Dean reported on his findings to the National Research Council, parent agency of the ABCC. Dr. Grant Taylor, assistant dean at Duke, now on leave, is chief of the ABCC.

Its aims are:

1. To examine 2500 exposed and 2500 unexposed (a control group) adults and repeat the exams every year for five years.
2. To examine exposed and unexposed children who were living during the bomb drop as well as children born after August, 1945. Some 40 youngsters are seen every day.
3. Set up a long range genetics program to see what happens to infants whose mothers or fathers survived the bomb. Here, 140,000 infants in Hiroshima and Nagasaki born during 1948-56 will be examined.

Seven Duke doctors who are on the staff, in addition to Dr. Taylor, are: Dr. Warner L. Wells, Duke '38, Associate in Surgery at Duke; Dr. Bernard Black-Schaffer, Assistant Professor of Pathology at Duke; Dr. Alice E. Black-Schaff-

fer, Duke '50; Dr. Paul G. Fillmore, Duke '46; Dr. R. Frank Poole, Jr., Duke '47; Dr. John N. Wood, a former member of the Duke Pediatric House-staff; Robert M. Sinskey, Duke '48.

Duke Hospital may have to close some of its beds or turn away some patients unless the nursing shortage here can be met. The shortage of nurses at Duke has now reached critical proportions because the hospital is now admitting the largest number of bed patients in its 20-year history. During the month of May the hospital census was highest since the war-time peak in 1946. The census this month is running well over 500 bed patients per day. Duke needs registered nurses immediately for full-time work, but those who could do only part-time work would be of immense value. A special appeal has gone out to private duty nurses as well, even though many of them might be able to work only part-time.

W. L. VENNING, M.D., and CAPT. C. G. WATKINS, M.C., U.S.A.R., announce their association with MARY LOUISE KUTLEDGE, M.D., in the practice of Pediatrics with offices at 1618 Elizabeth Avenue, Charlotte, North Carolina.

DR. GEORGE R. WILKINSON, of Greenville, S. C., was guest speaker at a recent meeting of the Tenth District (N. C.) Medical Society, held at Lake Lure. His subject was "An Approach to the Problem of Amebiasis."

DR. C. A. BOLT, Marshville, N. C., has been elected chairman of the Union County Board of Health, succeeding Mayor J. Ray Shute, whose term expired this month. Dr. Bolt has served on the board since its organization in 1932.

DIED

Dr. William deBerniere MacNider, member of the University of North Carolina Medical School faculty for 51 years and Kenan professor of pharmacology emeritus, died at Watts Hospital, Durham, May 31st.

Dr. MacNider was dean of the Medical School at Chapel Hill 1937 to 1940 when he returned to research and teaching as Kenan Professor of Pharmacology. He began teaching while still an undergraduate in 1899 as assistant in biology, was assistant in anatomy from 1900-02, demonstrator in chemical pathology 1902-05, Professor of Pharmacology and Bacteriology 1905-11.

Dr. MacNider retired from teaching last June after rounding out 51 years of service. At a testimonial dinner given in his honor, Dr. Alfred N. Richards of Philadelphia, president of the National Academy of Sciences as principal speaker, paid him tribute as a medical scientist of the first rank.

As a result of research carried on for 33 years, showing the effect of injury to tissue cells, Dr. MacNider was awarded the George M. Kober medal by the Association of American Physicians. In more than 50 years the association has awarded this medal only 19 times.

The New York Academy of Science awarded him the Gibbs prize in 1931 and a year later the Southern Medical Association presented him with its achievement medal.

Dr. Robert B. Taft, 51, graduate of the Medical College of the State of S. C. in 1923, died at his home in Charleston on April 16th. After courses of special study at the Universities of Michigan and Vienna, he returned to his native city where he engaged in the practice of roentgenology and was for many years Professor of Radiology at the Medical College. Dr. Taft's advances in his specialty won for him three awards from the American Roentgen Society, and in 1949 he was appointed a consultant for the Institute of Nuclear Studies at Oak Ridge.

Dr. William Isaac Hill, 81, died May 23d at his home at Albemarle, N. C., four days after he suffered a heart attack. He received his education in the Stanly County schools, at Davidson College, and the University of Maryland School of Medicine, had practiced in Albemarle and Stanly County for 53 years, and served as County Health Officer for a number of years. Among the survivors is a son, Dr. W. H. Hill.

Dr. Eugene Knight Bowles, 68, a graduate of the Baltimore Medical College in 1907, died at Clifton Forge, Va., on May 18th. Dr. Bowles had practiced medicine in Alleghany County for 35 years before retiring a year ago.

THE MALE FROG PREGNANCY TEST: A VALUABLE OFFICE PROCEDURE

(J. D. Dowling, Jr., M.D., Tuscaloosa, in *Jour. Med. Assn. Ala.*, June)

The male frog pregnancy test is a simple, rapid test, comparing favorably in accuracy to more elaborate procedures, and can be performed easily and inexpensively in any physician's office. A method is described for concentration of the patient's urine sample, which, though not new, adds to the value of the test.

Write the Author for a Reprint.

THE TREATMENT OF IDIOPATHIC PRURITIS ANI WITH ADENOSINE-5-MONOPHOSPHATE

(J. G. Matt, M.D., Tulsa, in *Sou. Med. Jour.*, June)

Of a series of 35 patients suffering from idiopathic pruritis ani who were given injections of adenylic acid, 79% were relieved either permanently or temporarily.

Twenty-five additional patients were used as controls and were given saline solution with 44% of them reporting relief of only short duration. These results closely approximate, and thus confirm, the findings of Rottino who first noticed the antipruritic action of muscle adenylic acid.

PRURITIS ANI

(J. G. Matt, M.D., Tulsa, Okla., in *Southern Med. Jour.*, June, 1951)

Of a series of 35 patients suffering from idiopathic pruritis ani who were given injections of adenylic acid, 79% were relieved either permanently or temporarily. Of 25 patients (controls) given saline sol., 44% reporting relief of only short duration. These results closely approximate, and thus confirm, the findings of Rottino who first noticed the antipruritic action of muscle adenylic acid.

UNCONSCIOUSNESS, TEMPERATURE OF 107, SIXTEEN DAYS IN HOSPITAL FROM A HALF-DOZEN WASP STINGS

(W. H. Williams, Jr., M.D., Rock Hill, in *Jour. S. C. Med. Assn.*, June)

A review of the literature of the past 35 years reveals reports of eight fatalities resulting from bee or wasp stings, 21 cases of severe general reactions and two with generalized urticaria and exfoliative dermatitis.

A case of severe general reaction to wasp stings is reported with apparently life-saving results from the administration of Cortisone.

The use of adrenal in adequate doses, antihistaminic agents, and general shock-combating measures is recommended as immediate first aid to be followed by Cortisone, preferably, ACTH in cases of anaphylaxis.

The subsequent desensitization with extracts made from the whole body of the insect is suggested in those patients who react violently to bee or wasp stings.

Write the Author for a Reprint.

PLANTAR WARTS. The usefulness of 3% formalin in treatment is not always appreciated, for its routine use will usually serve to clear 50-70% of these lesions.

—*Brit. Med. Jl.*

Schering Award Winners Announced

Dr. S. I. Griboff, of New York, serving his internship at New York City's Mt. Sinai Hospital, has been announced as the winner of "The Schering Award for 1950." Dr. Griboff was a senior medical student at Syracuse University College of Medicine when he enrolled in the competition. Mr. Francis C. Brown, president of Schering Corporation, presented the check for the first prize of \$1,000 to Dr. Griboff for his paper on "The Clinical Use of Steroid Hormones in Cancer." The ceremony took place in the executive offices of Schering, pharmaceutical manufacturers in Bloomfield, New Jersey, in the presence of Dr. John N. McDonnell, vice-president; Dr. Norman L. Heminway, Associate Director of Clinical Research; and Dr. George Babcock, Jr., chairman of the Schering Award Committee.

Co-authors Robert W. Winters and Henry M. Williams, both third year students at Yale University School of Medicine, tied for second prize with Kenneth J. Ryan, third year student at the Harvard Medical School. They were awarded duplicate prizes of \$500 each. Monte J. Meldman, third year student at Marquette University School of Medicine, Milwaukee, was awarded the third prize of \$300. Twenty-five contestants received honorable mention, and each received special awards in acknowledgement of their contributions.

MENOPAUSAL syndrome is effectively controlled with oral estrogen therapy. The natural hormone preparation, Menagen, was found superior to synthetic estrogen because it produces "a greater feeling of well being."

—Am. Pract., 2:51, 1951.

U. S. Vitamin Corporation Buys Arlington Chemical Company

U. S. Vitamin Corporation, New York, N. Y., has announced, through its President, H. B. Burns, the purchase of Arlington Chemical Company of Yonkers, N. Y. The 72,000 square foot plant, with a large new building to be constructed, will be utilized to enlarge the services of both U. S. Vitamin and Arlington to the medical and pharmaceutical professions.

New Arlington products will be issued by U. S. Vitamin Corporation. Also scheduled for expansion is another subsidiary of U. S. Vitamin, Casimir Funk Laboratories, Inc., headed by Dr. Casimir Funk, who originated the word "vitamine."

New Multivitamin B₁₂ Drops Made Available

Organon has just announced the availability of Dodox A-B-D Drops—containing vitamin B₁₂ in addition to generous amounts of vitamins A and D and five B-complex factors. Dodox A-B-D Drops are pleasant to take and easy to administer, providing an effective aid to safeguarding the nutrition of infants and children. They are dependably stable and nominally priced.

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awarded the third prize of \$300. Twenty-five contestants received honorable mention, and each received a special award.

The Schering Award is given annually for the best manuscripts prepared on designated phases of endocrinology. Medical students of the United States and Canada are eligible for the contest. The majority of medical schools are represented by applicants.

Lilly's to Process Blood Plasma

Because stock-piling of human blood plasma for military or civilian disaster is considered an essential defense measure, Eli Lilly and Company has announced plans to establish a modern blood-processing unit. Over 2,000,000 pints of blood were processed and supplied at cost by the Lilly company during World War II. The new unit, to be set up and operated in Indianapolis for the Armed Services Medical Procurement Agency of the United States, will be completed late this year.

Whole blood collected in principal Midwestern cities by the Red Cross will be expressed to the Lilly plant in refrigerated containers. Almost immediately on arrival, it is centrifuged, the plasma is drawn off, pooled, and irradiated with ultraviolet light. The plasma is then shell-frozen against the inside surface of a rotating bottle, dried by controlled temperature and high vacuum. Plasma will be packaged in a sealed moisture-proof container with a companion bottle of sterile diluent. Sterile tubing and hypodermic needles will complete the unit, which will provide ready-to-administer plasma at the scene of injury.

ENEMATA OF GELFOAM-MILK SUSPENSION TO STOP HEMORRHAGE

(D. C. Collins, M.D., 7046 Hollywood Blvd., Los Angeles, Calif., in *Am. Jl. Proctology*, June)

A preliminary report is made of the successful use of Gelfoam in milk, followed by a thrombin solution, administered as an enema, in 12 patients in the past seven months.

Write the Author for a Reprint.

DEMONSTRATING LUPUS ERYTHEMATOSUS CELLS IN PERIPHERAL BLOOD

(H. B. Mathis, M.D., Division of Hematology, N. Y. Univ. Post Graduate Medical School, Bellevue Hospital, New York, in *Blood*, May)

Of nine patients with the clinical diagnosis of acute disseminated lupus erythematosus "L. E." cells were demonstrated in large numbers in venous blood in every case. In 18 control cases (2 multiple myeloma, 1 periarthritis nodosa, 1 dermatomyositis, 3 discoid lupus, 2 rheumatoid arthritis, 2 rheumatic heart disease, 1 pernicious anemia, 1 miliary tuberculosis, and 5 undiagnosed) no "L. E." cells were found. Technic requires only a small sample of the patient's blood, and simple equipment.

Write the author for a reprint.

DOCTORS OF HANDLERS OF SHEEP TAKE NOTICE

A contagious pustular dermatitis of sheep has been known for a long time. In two recent issues of the *British Medical Journal* a number of cases have been reported in handlers of sheep, dead and alive. Treatment with the earlier antibiotics has been unsatisfactory. Chloramphenicol and aureomycin have not been available in rural practice. Very hot bathing assiduously applied after removal of scabs, has helped to shorten the course to three weeks. Immunity appears to be acquired from one attack. Cases seen have occurred between April and June and exceptionally as late as August.

BOOKS

THE STORY OF FAYETTEVILLE AND THE UPPER CAPE FEAR, JOHN A. OATES. *The Dowd Press, Inc.*, Charlotte, N. C. 1950. \$10.00. (Procurable direct from the author.)

First the author deals with early government of North Carolina, its different races, and grants and charters for the territory of Carolina; then with Scotch beginnings on the upper Cape Fear, the battle of Alamance and the Highland Scots in North Carolina. Then comes an account of settlement and early government, then the Revolutionary period from the battle of Lexington through Moore's Creek and Kings Mountain to Yorktown, all interspersed with stories of persons and places well-worth knowing. There are 400 absorbingly interesting pages on Fayetteville—the establishment of postal service, land grants in the section, early taverns, the wagon yard, oldest newspapers, first town house, the boating business, the military company, the great fire, Lafayette in Fayetteville, Dr. Ben Robinson's hospital, President Davis' last public paper, the old Fayetteville canal, Cape Fear river transportation, history of Fayetteville schools—and much more. Everyone will be interested and enlightened to read what the author has to say about plank roads and other roads, about Cumberland (County) and the War Between the States, about the schools and colleges and the early churches of the area. The early industries included commercial vineyards and silversmithies, as well as the turpentine and lumber trade, the mining of coal and iron, the manufacture of clothing and cotton goods. A section is devoted to the professional men, and one to the Negro, in Fayetteville. Early events and politics in North Carolina and tales and traditions of the locality are narrated in a rarely engaging style.

The author expresses it as his purpose in writing this history to get a composite account of the events that have transpired in this area since the first settlement two-and-a-quarter centuries ago. What Sprunt did for the lower Cape Fear, Oates has done for the upper Cape Fear.

Certainly everyone acquainted with the eloquence, the learning, and the powers of narrative of the author will want to read and reread this book and pass it on to his children.

PRINCIPLES AND PRACTICE OF OBSTETRICS (Tenth Edition). (Originally by JOSEPH B. DELEE, M.D.): By J. P. GREENHILL, M.D., Attending Obstetrician and Gynecologist, The Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, Chicago Lying-in Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. New, 10th Edition. 1020 pages, with 1140 illustrations on 864 figures, 194 in color. *W. B. Saunders Company*, Philadelphia and London. 1951. \$12.00.

As for his two previous editions, Dr. Greenhill has had the assistance of a number of other authorities in correcting several chapters and of writing certain others. There are 150 new illustrations, and a good many of those used in other editions have been redrawn. Much has been simplified and there has been considerable condensation. It is a truly remarkable feat to present all the essentials of the vast knowledge of the principles and practice of obstetrics today in less than a thousand pages, probably a fifth of the space taken up with illustrations. The hope expressed by Dr. Greenhill that the book will continue to be a memorial to Dr. DeLee is certainly being realized, and the auguries are that this realization will be long continued.

THE WORD FINDER, compiled and edited by J. I. RODALE, with the collaboration of KINGSBURY M. BADGER, M.A., THEODORE G. EHRSAM, M.A., MABEL E. MULOCK, B.S., and EDWARD J. FLUCK, Ph.D. *Rodale Press*, Emmaus, Penn. 1947. Third printing—1951. \$6.50.

This is neither a thesaurus nor a book of synonyms. It is an original aid to finding the word which expresses your meaning with the greatest accuracy and felicity. Nouns, verbs, and adjectives are arranged alphabetically. The nouns are modified by the adjectives with which to describe most appropriately any quality they may possess. These nouns are also associated with appropriate verbs as subject and object of the verb's action. The verbs and adjectives are coupled with adverbs to best express the different shades of meaning.

Ability to express one's self with accuracy is one of the luxuries of life. A person possessed of a fair high school education can, by the aid of this book, have this luxury as a permanent possession.

FUNDAMENTALS OF CLINICAL FLUOROSCOPY. With Essentials of Röntgen Interpretation, by CHARLES B. SIORCHI, M.D., Adjunct, Radiodiagnostic Department and Radiotherapy Department, Beth-El Hospital, Brooklyn, New York. *Grune & Stratton*, 381 Fourth Ave., New York 16, N. Y. 1951. \$6.75.

By the aid of the fluoroscope the vast majority of doctors can greatly reduce their errors of diagnosis and greatly hasten the arrival at the correct diagnosis in cases that are diagnosed later without its aid. Very few who do not use the fluoroscope themselves get very much out of the demonstrations by the radiologist to whom they refer patients for this kind of examination. In no other way than by learning how to use the fluoroscope and then using it daily can the general practitioner add more to his usefulness to his people, and to his income, and diminish the number of cases which he finds it necessary to refer.

FUNCTIONAL ANATOMY OF THE LIMBS AND BACK—A Text for Students of Physical Therapy and Others Interested in the Locomotor Apparatus, by W. HENRY HOLLINSHEAN, A.B., M.S., Ph.D., Head of the Sec-

tion on Anatomy, Mayo Clinic, Rochester; Professor of Anatomy, Mayo Foundation, University of Minnesota. 341 pages with 122 figures. *W. B. Saunders Company*, Philadelphia and London, 1951. \$6.00.

In this day of greatly increased interest in the usefulness of physical therapy such a book at this cannot fail to attract general interest and approbation. Very few of us learn much functional anatomy of the musculo-skeletal system in our college courses, which largely accounts for the fact that medical practitioners generally speaking are divided into two groups, one of which neglects physical therapy almost entirely, while the other shows unjustified enthusiasm for it.

This book strikes a middle ground and cannot fail of serving an excellent purpose and being of daily usefulness to any busy practitioner.

HOPE AND HELP FOR THE ALCOHOLIC, by HAROLD W. LOVELL, M.D. *Doubleday & Company*, Inc., Garden City, New York. 1951. \$2.75.

This is another of the writings which urges upon the doctor the need of the alcoholic for understanding and help, for a broad sympathetic viewpoint. It reports investigations into the chemical balance of the body, disturbances of which are said to cause some people to become alcoholic much more readily than others. The numerous case reports illustrate the fact that alcohol affects different persons very differently.

A PSYCHOSOMATIC APPROACH TO SURGERY, by BERNARD J. FICARRA, A.B., Sc.B., M.D., K.S.G., F.I.C.S., Professor of Experimental Physiology, St. John's University. Foreword by DR. MAX THOREK. *Froben Press, Inc.*, 1776 Broadway, New York 19, N. Y. \$4.00.

The author tells us that his series of lectures at St. John's University, Brooklyn, in 1950 forms the basis of this book. There are chapters on psychiatry, psychosomatic problems, psychopathology, psychosomatic problems in surgery and the modern treatment of psychic disorders. Perhaps one would be justified in saying that it is largely a statement of the fact, realized by all the leaders of medicine and surgery over the years, that every health problem is a psychosomatic problem.

HANDBOOK OF MEDICAL MANAGEMENT, by MILTON CHATTON, A.B., M.D., Instructor in Medicine; SHELTON MARGEN, A.B., M.D., Clinical Instructor in Medicine; and HENRY D. BRAINERD, A.B., M.D., Assistant Clinical Professor of Medicine and Pediatrics, University of California Medical School. Second edition. *University Medical Publishers*, P. O. Box 761, Palo Alto, Calif. 1951. \$3.00.

A valuable condensation of the essentials of medical management right up to date.

THE FOLLOWING HIT AT THE WATER CURT WAS made by Charles Lamb, and no one but himself could have had so quaint a conceit: "It is," he said, "neither new nor wonderful, for it is as old as the Deluge, which, in my opinion, killed more than it cured."

—*Boston M. & S. J.*, Nov., 1859.

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INTERNAL MEDICINE

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JAMES M. NORTHRIDGE, M.D., Editor

VOL. CIII

JULY, 1951

No. 7

Psychosomatic Medicine

JAMES J. CLECKLEY, M.D., Charleston, South Carolina

GENERAL CONSIDERATIONS

TTREATMENT of an individual as a unit is the essence of medicine. Since mind and body cannot be separated one from the other, we cannot exclude the mind in the treatment of diseases of various organ systems, nor can we exclude from consideration the body in our study of diseases of the mind. It has long been recognized that somatic disease carries with it a threat to the very existence of the individual and, therefore, induces an emotional reaction in the form of fear, apprehension, or sorrow. The handling of the emotional factors present in somatic disease has been termed the art of medicine. Psychosomatic medicine goes further than that and is in reality a method of approach to a more thorough understanding of the so-called functional disturbances of the organism. The psychosomatic concept postulates that chronic emotional disturbances of whatever nature and from whatever cause can and do produce altered functions in the various organ systems of the body, and if not interrupted by appropriate treatment, may lead to irreversible pathological tissue change.

It is rather difficult on superficial consideration to understand how a long-continued emotional conflict can produce actual tissue changes, such as those that occur, for example, in peptic ulcer. However, when we consider that emotions them-

selves result from physiological activity in the brain and differ only from other physiological processes in that they are perceived subjectively, and that these emotions evoke physiological responses invariably in the body, then the relationship is not so difficult to understand. For example, laughter is a physiological response to the emotion of glee or humor; weeping, that of sorrow; fear is accompanied by dilated pupils, facial pallor, increased perspiration, muscular tension, tachycardia, elevated blood pressure, increased respiration, and other more or less complex physiological changes which serve the purpose of preparing the body for action. The exact nature of the mechanisms involved in producing such changes is not clearly known. There is considerable evidence, however, that there are certain portions of the brain, chiefly the hypothalamus, which are concerned with the visceral functions of the body. The hypothalamus is the control center for the autonomic nervous system and, also, because of its position relative to the pituitary gland probably, is functionally related to the endocrine system. It is thought that chronic emotional disturbances, existing as physiological processes in the brain, in some way, cause a state of altered physiology in the hypothalamus and possibly other brain areas, which in turn act through the autonomic nervous system and the endocrine system to produce distant effects. The distant effects produced consist in altered physiological responses on the part of an organ or organ

Presented in the Fifty-second Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Columbia, February 19th and 20th, 1951.

system. Usually the effects are diffuse but at times they appear to affect a single organ. These states of altered physiology, existing over a period of time, are productive of symptoms and complaints on the part of the patient. Since the symptoms of organic disease are in themselves the result of altered function due to tissue changes, these functional disorders can simulate practically any disease insofar as the symptomatology is concerned. However, as noted above the effects are more diffuse and the physical complaints are practically always accompanied by subjective psychic disturbances, such as chronic anxiety, apprehension, irritability, and feelings of futility and inadequacy.

DIAGNOSIS

In regard to the diagnosis of functional illness, it is not justifiable to base such a diagnosis only on the exclusion of organic disease. Even today examination techniques, although highly developed, are not infallible. It should be obvious that no diagnosis should be made until a careful and complete physical examination and other indicated examinations are done. In the course of the physical examination, it will be helpful to search carefully for signs of autonomic nervous system disturbance, such as the appearance of apprehension; increased perspiration, particularly of the hands and feet, tachycardia and muscle tension—to name only a few. The presence of these signs makes the presence of an emotional disorder highly probable; however, their absence does not necessarily exclude it. In order to make an accurate diagnosis, we must definitely establish the presence of a chronic emotional disorder of sufficient intensity to produce the clinical picture as presented by the patient. Some cases are simple and the nature and the causes of the emotional disorder are obvious. However, in the great majority of cases, the causes of the emotional disorder, that is, the emotional conflicts, lie deeply buried in the personality of the individual and an estimate as to the nature and causes of it can only be made after prolonged and detailed discussions with the patient. A complete and detailed history is imperative, the history taking into account not only the physical illnesses and operations that the patient has undergone, but should also include a life history of the individual, his early environment, the personalities of the dominant people in his early life, his ability to adjust himself to changing situations, the amount of stress that he has had to undergo during life, his adaptability under stress, and his present life situation. The present reactions of the patient can be understood only in the light of his earlier life and his experiences. When we have a patient who is suffering from a disturbed physiology of sufficient intensity to produce symptoms, when we have excluded organic diseases which could produce such symp-

toms, and when we have clearly established the presence of an emotional disorder, then we are justified in making a diagnosis of psychosomatic illness.

TREATMENT

Since these illnesses are psychologically, rather than organically, determined, then treatment must be basically psychological. Adjunctive pharmacological methods may be advantageously employed, such as anti-spasmodics, sedatives, and so forth. It must be remembered, however, that such measures are palliative only and they should never be looked upon as being curative. Physiological measures, such as insulin therapy, are of value and in certain carefully selected cases electric shock may be of value. However, the cornerstone of treatment is psychotherapy. As stated earlier, many of the problems encountered are of a relatively simple nature and may be corrected by simple measures, these being the removal of obvious unnecessary stress, careful ordering of habits, and the employment of hobbies and recreation. More complex problems involving deep-seated emotional conflicts, beneath the awareness of the patient, tend to be more difficult and time-consuming. Unless the physician has some knowledge of psychotherapeutic techniques, the more complex problems should be referred elsewhere for treatment. It must be remembered that ill-conceived and ill-conducted psychotherapy can be extremely dangerous to the patient. It is also well to realize that an intellectual understanding on the part of the patient is not sufficient, emotional acceptance which in the usual case requires a great deal of time is the prime requisite. In general, the cornerstone of good psychotherapy lies in the attitude of the physician; this attitude must be one of calmness, acceptance, and understanding. It is only in such a situation that the patient can feel free to express himself and this he cannot do if the physician is overly authoritative, is hyper-critical, or if he tends to sit in moral judgment over the patient. There is no form of psychotherapy applicable to all patients, and it is necessary that this form of treatment be highly individualized.

When a patient presents himself for treatment for a functional illness, it must be recognized that he has anxiety, not only related to his primary emotional difficulty but also to the symptom itself. In general, he always expects the worst of the symptom. If, for instance, he has chest pain, a persistent tachycardia, or palpitation, he is convinced that he is suffering from some unusually malignant form of cardiac disease. Functional gastrointestinal disturbances represent to him, cancer, ulcer, or other threatening situations. It is usually the case that the patient has been to not one, but to many, physicians. He has had innum-

erable examinations and probably in many cases has been dismissed with a handful of sedatives and the statement that he has a nervous heart or a nervous stomach. Regardless of this, the cause of the illness remains, the symptoms remain, and he assumes that he is suffering from some rare disease which physicians are unable to diagnose. He resumes his travels on the medical circuit in the hope that he will eventually locate some physician who has unusual knowledge or facilities and can provide him with an answer to his difficulties.

Since the patient's attentions and fears are focused on his symptoms, it is well in the beginning to direct our attention to the symptoms where we have a common meeting-ground with the patient. The patient must understand how actual physical symptoms can result from a chronic nervous disorder. In order to establish this connection, we have found it useful to employ some simple rough drawings of the autonomic nervous system, its connections with the centers in the brain thought to be concerned with emotions, and its controlling influences on the various organ systems. Such simple examples as butterflies in the stomach in fear, pounding of the heart in anger, help the patient to tie the two together. This accomplishes several things. First, it provides for the patient a logical understanding for his physical symptoms, thus alleviating much of the fear surrounding them. Secondly, it relieves him of the feelings that we think he is imagining the whole situation, and thirdly, it prepares the ground for psychotherapy.

When the patient can understand how his symptoms may result from emotional conflict and that his final cure rests upon the solution of the conflicts, then he is ready and willing to actively participate in the psychotherapeutic process. There is a tendency on the part of some physicians to hurry into psychotherapy without first preparing the patient for it. The patient must know why and for what purpose he is being asked to discuss his very personal life. Without proper understanding, the patient will refuse, and rightly so, to discuss such topics.

Time does not permit and it is beyond the province of this paper to discuss the various techniques used in psychotherapy. However, I would like to reiterate that any successful form of psychotherapy must be flexible and must be adaptable to the individual patient. Also, anyone who desires to employ psychotherapy in the treatment of these patients should be fully cognizant of the dangers as well as the benefits inherent in the process.

SUMMARY

The psychosomatic concept has been briefly discussed. Diagnosis of psychosomatic disease is justified only when the presence of an emotional disturbance of sufficient intensity to produce the clin-

ical picture has been established. Because of the fact that these illnesses are psychologically determined, psychotherapy is the cornerstone of treatment although adjunctive pharmacological and physiological forms of therapy are of value. A method of approach to the patient is described.

Discussion

DR. O. R. YOST, Orangeburg, S. C.: There is no more important subject to be considered by such a group as this than that of "Psychosomatic Medicine." Dr. Cleckley has just presented such a splendid and informative paper that I shall not attempt to enlarge on his presentation, but try, instead, to emphasize a few facts and present a few brief case histories.

When it is known that 70 per cent of the cases treated today in general hospitals have an emotional basis, why should physicians or patients continue to consider *one* why the exclusion of the *other*? The living organism is a whole personality, and will admit of no splitting, but will react favorably to treatment toward normal behavior only when mismanaged body functions are looked upon as the result of disturbed emotions, for psychic problems produce in the body physiological changes which sometimes alter the behavior. This principle as explained by Dr. Cleckley has also recently been summed up thus by Dr. H. C. Modlin: "I am inclined to regard the recognition of the frontal lobe (as the primary autonomic center of the forebrain) as perhaps the most significant disclosure of recent years in the field of scientific medicine, for it affords at long last a sound physiological background to the subject of 'psychosomatic medicine.'"

In considering the effect of the frontal lobe upon the hypothalamus, that tiny area of the brain which, as Dr. Cleckley stated, is a coordinator and regulator, Dr. Foster Kennedy states: "The regularity of breathing, the constancy of pulse rate, the exact maintenance of body temperature, the beautiful balance of the intake and output of fluid, the cycle of sleep, the integrity of body weight, and the imposed periodicity of the menstrual cycle—all those ebbs and flows seem to be instrumented primarily through the hypothalamus."

Through laboratory experimentation, clinical experience and autopsy discovery, medical scientists—neurosurgeons in particular—have produced conclusive evidence that the hypothalamus is an important regulating and coordinating center for both divisions of the autonomic nervous system and for the endocrine glands. It is not difficult to understand how this powerful regulator of body temperature, water balance, carbohydrate and fat metabolism, gastrointestinal functioning, patterns of sleep and waking, emotional balance, and so on, can oftentimes bring about changes in various conditions of the periphery of man's entire organism. To the hypothalamus come numerous nerve fibers from the frontal lobes (the source of man's intelligence and personality), and many other important centers, while from the hypothalamus radiate fibers to the cerebral cortex (frontal lobes), the spinal cord, the medulla, the pituitary gland, and so on. When man becomes worried because of the stresses and strivings incident to modern living, he transmits such disagreeable and harmful impulses to the hypothalamus as to cause its serious dysfunctioning, and the work of regulating the numerous vital functions of man's whole organism is seriously hampered. As a result, epetic ulcers, and other gastrointestinal disorders, renal disturbances, diabetes, asthma and other ailments develop. It is true readily seen how a general dysfunction of the hypothalamus is caused when man frets, worries, lives under tension or morbid fear and in turn, the hypothalamus, since it involves such fundamental bodily mechanisms, necessarily will profoundly alter the whole rhythm of the

human organism. Such, in a nutshell, is the concept of psychosomatics.

We treated at Edgewood Sanitarium Foundation a 21-year-old man who, since early childhood, had been a sufferer of a severe eczema and who frequently had acute exacerbations of his allergic condition—a diffuse eczema afflicting both his face and body. When suffering acutely, this young man would develop severe anxiety tension, approaching mental confusion, and he would pace the floor in a state of rage. Sedatives failed to benefit, rather aggravated. Sub-convulsive doses of insulin and electrocoma therapy gave emotion relaxation and all traces of his allergy subsided.

Since tension, repressed conflicts, guilt feelings, frustrations, and so on, are causative factors in producing peptic ulcer it would seem that therapy based on suggestion and reassurance would prove the logical kind. Here, of course, the personality and conditioning of both the patient and the doctor will be important factors in carrying out what might be termed a "psychotherapeutic sedation." We recently treated a 19-year-old boy, who showed maladjustment and severe depression and who had developed a peptic ulcer. Upon admission he refused to cooperate regarding his diet. When he refused all food, we were forced to nourish him intravenously. Finally, we found it necessary to give him sub-convulsive doses of insulin and electro-coma therapy, supplemented with psychotherapy. This patient forthwith began to improve and in six weeks' time had completely recovered from his peptic ulcer disorder and showed a gain of 20 pounds.

Anxiety-tension headaches are seen in many of our patients who, as Dr. Cleckley has said, have made the rounds, with the result that they, in far too many instances, have become addicted to barbiturates or demerol. All these cases of emotional disturbances have reacted effectively to sub-convulsive insulin and electro-coma for the purpose of relaxing the autonomic system and to psychotherapy for furnishing these tension-ridden individuals with a new insight into their difficulties.

These cases are typical of scores of other psychosomatic disturbances with which we daily come in contact.

The *Discussion* following is of Dr. Yost's paper published, out of its regular order by special request, in the issue for April.

DR. GEORGE FELTZ, JR., Richmond, Va.: I want to thank Dr. Yost for his excellent paper dealing with a subject which I believe we are quite aware of, but which we do not regard as seriously as we should. We, as physicians, can by no means control this situation adequately, but there is much we can do to better it, and that is to control it better from within our own ranks. In looking over the records of the last 30 consecutive admissions for narcotic addiction—and this does not include the large number of addictions to the hypnotics, stimulants, and other drugs—in our own 70-bed psychiatric unit, we found statistics which did not surprise us, but which nonetheless were amazing. Fifteen of these were practicing physicians, four were wives of physicians, three were pharmacists, and one was a male practical nurse. The physician husband of one of the physician wives was and still is a rather competent psychiatrist himself.

Only seven of these patients came from the ranks of the leity, and more than one of these was introduced to his habituation by an indiscriminate, already addicted physician. Physicians apparently recognize the fact that any personality has its breaking-point, provided that mental and emotional stresses for that particular personality become too severe, but they apparently do not realize that anyone can become addicted if discomfort becomes intolerable. The addicted physician certainly is not a totally responsible person. Of tremendous concern to the wife of one of our physician addicts was the fact that when he

was taking narcotics and would go out on a night call, he would not hesitate to give the patient a half-grain or three-quarter-grain of morphine hypodermically, when the patient in actuality did not need even an analgesic.

Physicians, apparently, are sometimes blind to the fact that opiates, as well as sedatives and hypnotics, can cause intellectual as well as social deterioration. The intelligence quotient of individuals addicted to morphine has been proven to be quite a few points lower while the individual is addicted.

This criticism towards ourselves is not intended as destructive criticism. Physicians are probably more exposed to severe emotional stresses and strains with resultant discomforts than are other groups. But we have no more business attempting to relieve our discomforts, which arise from innermost conflicts and tension, by self-prescribing sedatives, hypnotics, narcotics, and stimulants, than we have of self-prescribing digitalis for our own heart failure. We become very irritated at times when some of our self-centered patients tend to prescribe for themselves; yet we rationalize unsatisfactorily the same thing within ourselves.

Drug addiction is a terrifying problem and conceivably a problem that will never be entirely conquered, but it may be said dogmatically we can certainly do a lot to help by controlling it better from within our own ranks.

A COMMON FORM OF ANEMIA, OFTEN UNDIAGNOSED, CURABLE BY OX BILE

(Raphael Isaacs, M.D., Chicago, in *Ill. Med. Jour.*, June)

A common form of hemolytic anemia, frequently unrecognized, afflicts individuals who do not secrete enough bile. At some meals the fat is inadequately emulsified, and presumably remains too long in the intestine. Products of fat decomposition (presumably fatty acids) are absorbed and produce hemolysis. The degree varies from day to day and with the content of the meals. As a rule there is but little accumulation of bilirubin in the blood.

This type of anemia does not respond to iron or liver therapy, but disappears when extract of whole ox bile is given before each meal. In some patients the process is helped by the addition of calcium lactate to the meals. The diagnosis is made by finding semiperipheral red blood cells, increase in the percentage of monocytes with vacuolated forms, and, large lipoid globules in the blood films.

URECHOLINE IN CHRONIC URINARY RETENTION

(L. W. Lee, M.D., Omaha, in *Jour. Urology*, Aug., 1950)

Twenty-eight patients with hypotonic bladder showed a decrease in residual urine from a 350 c.c. average to a 30 c.c. average following Urecholine therapy. Eleven had no residual at all and 7 others less than one ounce following treatment with the drug.

This drug is contraindicated in mechanical vesical neck obstruction. It has been reported to be so in patients with asthma, hyperthyroidism, and cardiac disease. As to reactions, flushing, sweating, headache, abdominal cramps, and even circulatory collapse have been suggested by others, but never seen by us. It should not be given by IM or IV injection. The antidote is atropine, which has never been necessary in a series totaling more than 200 administrations.

Urecholine, 10 to 20 mg. q. 6 to 8 h., is a safe and valuable agent in the management of acute postoperative urinary retention and chronic hypotonic dysfunctions of the urinary bladder.

—Medical Arts Bldg.

The most desirable salt-substitute is the product containing chiefly potassium chloride (Diasal). Of all the products studied, Diasal most closely approximates sodium chloride in taste, pour-quality, appearance and stability.

Differential Diagnosis of Vasomotor Rhinitis

GEORGE R. LAUB, M.D., Columbia, South Carolina

RHINITIS VASOMOTORIA is not a name of a disease entity or a symptom, but is a word which embraces quite a number of entirely different diseases. It also has numbers of synonyms such as perennial hayfever, hyperesthetic rhinitis, allergic rhinitis, atopic coryza, "asthma of the nose," etc. The complexity of vasomotor rhinitis is probably one of the reasons why the literature as well as the practicing physicians are quite confused as to classification or diagnosis in a particular case.

To attempt to bring order in "the house of rhinitis vasomotoria" is quite an undertaking. A differential diagnosis is not possible without complete understanding of this term. Etiologically there are two main groups: allergic and non-allergic vasomotor rhinitis. The symptoms in the two groups are practically the same, the few differences will be pointed out later. Stuffy nose, discharge from the nose, postnasal drip, lacrimation, occasional blockage of the nose with resulting mouth-breathing and nasal twang in speaking, sore throat, fullness of ears, headaches—all these symptoms can easily be explained as sequelae of the swelling of the mucous membrane lining of the nose and the accessory sinuses. Due to blockage of nose-breathing, respiration has to be carried on through the mouth, and the indrawn air, not having been moistened in the nose, so dries the mucous membrane of the pharynx as to produce a pharyngitis. In some cases the chronic irritation of a postnasal drip produces the same result. Proper ventilation, or better aeration of the sinuses and of the middle ear through the tube, is essential for the normal functioning of these organs. The swelling of the mucous membrane can block the Eustachian tubes producing a fullness of the ears: the lack of proper ventilation of the sinuses causes headaches.

All these symptoms are common to all groups of vasomotor rhinitis.

The diagnosis is made by taking a good history, making a good physical examination and indicated tests, including transillumination, x-ray and laboratory.

The history has to be very exact. The more information we can gain, the easier and surer the differential diagnosis and the more effective the treatment. Of special consequence are:

The time of appearance and the nature of the first symptoms, particularly the nasal symptoms,

any other allergic manifestations in childhood as eczema, asthma, etc.; whether the symptoms are present during a certain season or independent of the time of year; the interval between attacks, e.g., any connection with menses; factors which aggravate the condition in the opinion of the patient, like dust or certain flowers in bloom or foods, etc.; change of climate or living quarters of the patient, with environmental differences; time of day when symptoms are worse (pollen effects are mostly worse in the morning and at night); duration of attacks; family history—in 60-70 per cent of all cases (Hansel) the family history will give some clues in the evaluation of our patient. Diabetes, gout and other metabolic diseases in the family have a bearing.

Occupation—Contact with chemicals, inhalation of certain gases, or dusts—lint in cotton mills, wood dust in carpenter shops—the use of certain cleansers, oil, grease, etc. Hobbies must be discussed—plant sprays, insecticides, paints, etc.

Diet and food habits should be investigated minutely.

An endocrine history should cover facts regarding the bowel movements, menstrual periods, menarche and time of last period, number of pregnancies, miscarriages, etc., sexual habits, libido; also whether patient has a dry or moist skin, if hair is fine or coarse, loss of hair, whether patient is considered nervous or not, appetite, gain or loss of weight.

A few psychiatric questions are in order. We should find out about the makeup of our patient, about difficulties at home or in business, any particular worries or unfounded ideas, etc.

Finally, it is always a good idea to ask the patient about his own opinion of his case based on a detailed account of his experience with the disease. These people have suffered, as a rule, for a long time, been to many other doctors. They are able to help in the diagnosis by telling us which methods of treatment were of any help and which were failures.

The first parts examined are the eyes, ears, nose and throat. In many cases we see a conjunctivitis; in the eyegrounds I have noticed a sign which I cannot explain so far, and which I have not seen mention in the literature before. Normally the veins are about one-third larger than the arteries. In checking the fundi of every patient carefully it was noticed that in allergic diseases the veins were getting at least twice as wide as the arteries, sometimes even more than that. The color of the optic

disc as a rule stays normal. The changes of the blood vessels were observed in allergic patients of any age group, as young as 10 years old. Edema and vasodilation is the pathology of the mucous membrane in the nose, and apparently the same cause produces the dilation of veins in the eye-grounds. This was found to be the case also in people with an allergic background, who did not have any allergic symptoms at the time of the examination.

The nose may show a picture varying much over a very short interval. The mucous membrane may be edematous, swollen, of a bluish color, or it may be contracted, very pale and the nose itself apparently very wide. There may be no secretion seen, or a considerable amount of watery mucus may make a lake on the floor of the nose, apparently oozing from the turbinates. Hypertrophy of the mucous membrane may give the turbinates a surface like a mulberry, or we may discover a few, or occasionally many, polyps in the nose. The ears are normal, or during the stage of congestion of the mucous membrane of the tubes may show slightly retracted drums, which appear to contain more moisture.

The pharynx shows mostly a chronic inflammatory redness, is dry and irritated; it gives the picture of the pharynx of a heavy smoker, even in a person who does not indulge in the abuse of tobacco.

It is always a good practice to determine the size and consistency of the thyroid gland and to investigate the jugular and mandibular lymph-nodes.

The tests to be discussed are done on the patient himself.

Adrenalin test: Cotton soaked in adrenalin is applied to the mucous membrane of the lower turbinate for a few seconds. Afterwards the mucous membrane is touched with a probe. In vasomotor rhinitis cases the line where the probe was used will turn distinctly pale at first, later red, while in a control case no such change can be seen. Some will sneeze violently after adrenalin, but not enough of this drug is used to cause a severe reaction.

Histamine test: The mucous membrane of the nose is painted with a solution of histamine 1:1000. Within a few seconds severe itching and sneezing occur. After one minute the lower turbinate swells, the mucous membrane becomes moist, and glossy, tough secretion collects on the floor of the nose. The swelling blocks the side completely. In many cases the blood-vessels of the conjunctiva of the same side becomes moderately dilated. This artificial attack lasts for 10-25 minutes. In non-allergic persons histamine produces no change of the mucous membrane. The attack can be stopped imme-

dately by mopping the nose with any anti-histaminic.

Transillumination can easily be done in the darkroom of any office. By having a good transilluminator connected with a rheostat so that the light can be changed in intensity, we can, in patients with thin bones detect swelling of the mucous membrane within the sinuses. This method requires some experience and is worthless in patient with heavy bones or severe infections. X-ray is then the method of choice.

X-ray examination of the sinuses can inform us about the anatomy of the sinuses, detect shadows, (variously interpreted) and about fluid levels, polyps or swelling of the mucous membrane. When we fill a sinus with some contrast medium, we can even tell more about the swelling of the mucous membrane, about polyps, etc. However, the thickness of the mucous membrane may change rather rapidly just like in the nose, due to a nervous condition, even excitement from the examination. Repeated x-ray examination in some such cases will be necessary, but it cannot be recommended as a routine procedure.

Allergy test: Scratch test and intradermal tests are the tests of my choice. Elimination diets take too long and patients get quite dissatisfied when they cannot hear the verdict in a short time. I have no personal experience with inhalation tests. The idea sounds good and I would like to try this method.

Laboratory examination

A smear of nasal secretion made with a swab and stained with any good stain will show the eosinophiles in cases of allergy, neutrophiles in cases of acute infections, lymphatic elements in cases of chronic infections. In Kuhn's series 26 patients had more than 50% eos., 34 patients 10-50%, 23 1-10%. He found 100% neutrophiles in bacterial infections. I agree with others that the examination of eosinophiles is a guide only, a positive smear is of help, but a negative smear is of no more value than a negative Wassermann.

The BMR, blood count, sedimentation rate, blood sugar and blood cholesterol may be determined and gastric analysis made easily in any laboratory without any special equipment. They certainly will enable us to make a better diagnosis quicker. There is a great multiplicity of tests which require access to an elaborately equipped laboratory but are important only in some unusually difficult cases.

At the University Clinics of Vienna, where I did some research work regarding the hormonal etiology and treatment of vasomotor rhinitis, we had a special instrument, the "Interferometer," which was used for Abderhalden's reaction on the serum of the patients from the different glands. We

checked the total pituitary gland as well as the anterior and posterior lobe separately, thymus gland, thyroid, mammillary glands, adrenals, ovaries, testicles and pancreas. Although this method was not exact, it gave us some hints regarding the glands involved, and further examination of these glands was suggested. If that was impossible we used small dosages of hormone and observed the effects. If results were encouraging we continued this experimental treatment.

One of the greatest difficulties in the differential diagnosis involves the question of allergy or hormonal cause, versus infectious rhinitis or a combination of both. The following table will help to clarify this differentiation.

	Allergy	Infection
Mucosa	pale or bluish	red
Polyps	edematous, very frequent (polypous)	rare. If present more fibrous, hypertrophy of mucous membrane.
Secretion	degeneration of mucous membrane	white-yellow, greenish pus.
	watery, mucous, abundant.	

A question of importance is that of allergy or hormonal etiology in regard to vasomotor rhinitis. Allergy as we practice it today is assumed to be a distinct disease entity. It may be that it is a symptom-complex from an endocrine disturbance which we do not recognize as yet. Pirquet, who invented the term allergy, and whom I can proudly call my teacher, always told us in class, that "allergy" has no other meaning but the strange reaction of the body. To explain the idea of allergy due to a certain cause, I like to quote two exceptional cases from a great number which I saw:

CASE 1.—A 28-year-old white man with typical hayfever and allergic edema of the face and throat, occasionally of the hands. The laboratory findings were all normal with exception of a severe anacidity of his stomach. The allergy tests showed only an allergy to different citrus fruits. He did not keep to his diet, but was without symptoms as long as he took the prescribed acid. He had immediately an allergic edema and sneezing spells when leaving off the acid.

CASE 2.—A 44-year-old white man with asthma and hayfever. His complaints were fullness of the head, especially the right side, water-like mucous discharge independent of the season, attacks of sneezing some 50 times in succession. In 1935 he went to a large university clinic for examination. There he was told that he was allergic to all flowers and trees—quite a shock to him because he is a florist. For nine years he did not enter his flower shop and conducted his business by telephone. The nasal symptoms did not disappear, although the asthma improved. In July, 1944, he was given a small dose of calcium by mouth and 20 mg. of testosterone propionate once a week. The sneezing attacks stopped within five weeks and after 11 weeks he had no breathing difficulties. Later he received only 10 mg. of testosterone propionate weekly, which was discontinued in October, after only three months treatment. He telephoned that he had returned to work for 2 to 3 hours a day in his flower shop, without asthma or hayfever attacks. Now more than five years later he is still

well and able to work without having had any further treatments.

Cases like this make one wonder if allergy is not a symptom caused by some still-unknown diseases. The success of treatment of allergic rhinitis and allergic asthma with cortisone or ACTH points in the same direction.

Other conditions which may be mistaken for vasomotor rhinitis, because of the history of blocked nasal breathing, are:

Foreign bodies, especially in children and mentally ill patients. At first, there is a marked mucous discharge from one side of the nose, later the discharge becomes purulent and bloody.

Deviation of the septum, especially septum spurs. This condition does not cause any special discharge. The blockage is permanent and does not vary due to swelling of the mucous membrane.

Early stages of virus infections, e.g., common cold, measles, etc., start out very similarly to a vasomotor rhinitis; there is fever, malaise, and other evidences of infection. After 48 hours the discharge becomes more purulent and other findings of infectious diseases more pronounced.

An attempt is made to present the differential diagnosis of vasomotor rhinitis, explain the term and its relation to allergic and non-allergic rhinitis. A number of points are mentioned which are helpful in taking a careful history, which is of great importance in the diagnosis. Clinical and laboratory tests are discussed with special emphasis on ones which do not require any special equipment, but can be done in any doctor's office. A new sign in the eyegrounds characteristic for allergic diathesis is described.

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VIEW OF NEW DRUG THERAPIES IN THE TREATMENT OF
ALCOHOLISM

(Joseph Thimann, M.D., Boston, in *New Eng. Jour. of Med.*, June 21st)

In recent years two new drugs have been added to the list to be used against alcoholic addiction.

The action of the first one, tetraethyl thiuram disulfide, with the commercial name of Antabuse, is based on its property of oversensitizing the body to alcohol. In some of our patients, apparently oversensitive to the drug, ingestion of Antabuse followed by drinking moderate amounts of alcohol (17 to 32 c.c. of whiskey) caused circulatory collapse, rendering the patient pulseless, cyanotic and unconscious.

A still newer drug that is used both as therapy for acute intoxication and as preventive treatment for chronic alcoholic addiction is adrenal cortex extract (ACE).

With regard to efficacy, it appears that the success of Antabuse and ACE treatment offers similar values toward unqualified abstinence—25.8% in Antabuse, 27.3% in ACE. As to improvement and failure we see a marked difference: 19.9% improvement and 28.5% failures with Antabuse, as against 4.5% improvement and 40.9% failures with ACE.

Antabuse is far from being a harmless drug; the test drinks should be given only to hospitalized patients, and dosages should be carefully established.

The short period of application and observation warrants caution in interpretation.

THERAPY IN CIRRHOSIS OF THE LIVER

(W. D. Davis, Jr., New Orleans, in *Southern Med. Jour.*, July)

Many patients in early stages of cirrhosis of the liver can be cured.

In most cases of advancing cirrhosis the disease can be checked and the patients can lead useful lives if they will help themselves.

Usually a diet which provides 150 grams protein daily with modest vitamin supplements is sufficient.

Methionine is of value in patients with severe cirrhosis and fatty liver who do not eat well.

Intravenous injection of crude liver extract is probably of value in the management of advanced cirrhosis with recurrent ascites.

—3503 Prytania St.

Write the author a card requesting a reprint.

REPORT BETTER RESULTS FROM VERY SMALL IV DOSES OF
ACTH

A report on the IV use of ACTH in *J. A. M. A.*, June 29, by Singer et al. The doses used were only 1/10th to 1/20th of those previously used. All 45 patients responding "adequately" No patients were refractory to the hormone when given by this method. No patients relapsed while being

treated with adequate doses. None was refractory on subsequent treatment. The patients were treated for periods of from two to 42 days for a variety of conditions, including arthritis and bronchial asthma.

Ten patients had previously received the drug in intermittent IM injections. In these the response to IV infusion was usually more prompt and complete. Remissions after cessation of IV treatment were generally more prolonged

EXPLORATORY CULDODOTOMY—ALTERNATIVE TO EXPLORATORY LAPAROTOMY

(J. R. Doyle, M.D., Boston, in *New Eng. Jour. of Med.*, June 21st)

Exploratory culdotomy offers a simple method of palpating, visualizing and photographing the contents of the pelvis. Menometrorrhagia may mean ovarian cancer. Ovarian biopsy should supplement uterine biopsy for the early detection of ovarian carcinoma.

Total pelvic biopsy by direct culdoscopy has been achieved with less surgical risk, expense and psychic trauma than has been true of laparotomy. The physiologic response of ovaries, tubes and uterus to pharmacologic or hormonal stimulation can be recorded in color photography. Genital pelvic pain has been relieved by resection of certain of the ligaments.

INGUINAL HERNIA OF INFANCY AND CHILDHOOD
(C. J. Heifetz, St. Louis, in *Jl. Mo. Med. Assn.*, July)

The problem of inguinal hernia of infancy and childhood has not been solved. Do inguinal hernias of infancy disappear spontaneously? What benefit can be derived from the application of a truss? When is surgery indicated?

If the operation is refused, I believe it is not wise to recommend the truss.

There is little likelihood that inguinal hernias of infancy will cure themselves spontaneously. Even though actual herniation may not recur the funicular process remains patent, predisposing to herniation under favorable conditions.

There is no clear evidence that trusses cure or are beneficial in inguinal hernias of infancy and childhood, and their use is not recommended.

Properly executed hernioplasty offers a simple and safe method of obtaining lasting cures in all cases of inguinal hernia of infancy and childhood. Surgery is recommended as soon as the diagnosis has been established, provided the general health of the child is good.

HYPOTHYROIDISM IN CHILDHOOD

(W. A. Reiley, Little Rock, in *Jl. A. M. A.*, May 19th)

Even now some writings describe hypothyroidism only in its fully developed form. Mental retardation will not be apt to develop in the patient with congenital thyroid deficiency if he is treated before the age of 6 to 12 months. Acquired hypothyroidism causes slow mental development; 25% can again attain normal mentality when properly treated.

Hypothyroidism can be diagnosed early, in many (perhaps most) cases without laboratory aids. Patients with congenital deficiency (athyreosis) usually appear normal at birth because of the help of the maternal hormone; after several weeks or several months the classic picture starts to develop. Acquired hypothyroidism usually develops slowly, months and even years being required for full development.

CORTISONE.—A patient with moderately advanced and generalized scleroderma responded dramatically to cortisone. Within a period of 10 weeks an irreversible hypertension developed, and she died in uremia.

—J. G. Sharnoff, et al., Mount Vernon, N. Y., in *J. A. M. A.*,

Fractures of the Upper End of the Humerus

JOHN A. POWERS, M.D., Charlotte, North Carolina
From the Miller Orthopedic Clinic

FOR years practitioners have been content to treat fractures of the upper end of the humerus in a stereotyped manner. Such treatment has consisted largely of the use of a hanging cast or simple sling immobilization. This management may predispose to delayed union, a prolonged recovery period, and an equivocal end result.

By definition we are including as fractures of the upper end of the humerus those which occur at or above the insertion of the latissimus dorsi and the teres major. These fractures have logically been classified according to age.

Humeral fractures assume their greatest importance when they occur in children. Injuries to the epiphyseal plate result in growth changes and positional deformities of the humeral head. Because the upper humeral epiphysis does not unite with the shaft until the age of 17, direct violence upon the outstretched hand or elbow with indirect damage to the proximal humerus is liable to produce separation of the epiphyseal body from the shaft. This injury rarely results from direct violence upon the tip of the shoulder. The deformity is typical; there is adduction of the distal shaft in relation to the head which is externally rotated and abducted.

The treatment depends on the degree of displacement of the epiphysis. In those cases with less than 15° of displacement the Velpau dressing is often used. We question the validity of the use of the Velpau since in many cases this method increases the deformity. Immobilization in the abducted position for four to six weeks in a shoulder spica will give uniformly good results.

If the degree of angulation exceeds 15° manipulation under anesthesia should be attempted. If the reduction is successful the extremity is placed in a shoulder spica with 90° abduction, 90° external rotation and about 15° flexion.

Occasionally it will be found that these fractures cannot be satisfactorily handled by closed manipulation. Therefore, surgery is indicated to secure anatomical reduction and minimize secondary epiphyseal changes. Any type of metal fixation is to be condemned. After reduction the arm is held in a plaster spica for about four weeks, then carried in a sling for two weeks more, until active motion can be started.

Complete fractures through the surgical neck comprise the greatest majority of upper humeral

fractures in children. The term "complete" includes all surgical neck fractures with little or no impaction and varying degrees of comminution. These are usually caused by indirect violence, such as a fall on the outstretched hand or flexed elbow.

Ninety per cent of these fractures show abduction of the proximal fragment with external rotation. The fracture is commonly subperiosteal or greenstick in the very young. On rare occasions the head of the humerus is dislocated anteriorly or the brachial plexus or one of its branches is injured by a sharp distal fragment.

Treatment is directed toward restoration of the normal alignment between the head and the shaft. If there is little or no displacement the continuity is maintained by keeping the arm close to the body in a Velpau bandage.

In those fractures with abduction of the head and little comminution of the fragments, the patient is put to sleep, the break reduced by manipulation and lateral traction, and the position held by maintaining the upper extremity in 90° of abduction and 90° of external rotation.

For spiral fractures, those with marked comminution or those in which the reduction is unstable, position is maintained by lateral traction using adhesive tape or a Kirschner wire through the olecranon. These children should be held in traction two or three weeks and then placed in an abduction cast or splint for an additional two to three weeks. Ingenious methods have been devised to maintain lateral traction with the patient ambulatory. These include the Hoke abduction traction apparatus and the commercial traction splints. Key and Conwell consider the Hoke method the most efficient ambulant method yet devised. Its disadvantages are: (1) it requires special traction apparatus; (2) the adhesive may slip and necessitate an entirely new cast; (3) the surgeon is dependent upon traction alone and is denied the privilege of molding the fragments.

In adults the treatment of complete fractures of the surgical neck is similar to that in children. However, fractures with adduction of the proximal fragment are about as frequent as those with abduction, the type depending on how the extremity is held when the patient falls. These are treated by immobilization with the arm at the side, as in a Velpau bandage. It is wise to note that there is frequently a fracture of the greater tuberosity associated with these adduction breaks, the tuberosity being pinched off between the outer margin



Fig. 1.—Complete fracture of the surgical neck.



Fig. 2.—Greater tuberosity fracture, contusion type.



Fig. 3a.—Greater tuberosity fracture, avulsion type.

of the shaft and the head.

In adults one occasionally sees complete dislocation of the head of the humerus associated with fracture through the anatomical or surgical neck of the humerus. It is usually impossible to reduce these by closed manipulation, as the rent in the capsule closes over the displaced head. Open reduction with replacement of the humeral head is the treatment of choice, even though aseptic necrosis may supervene. In my opinion excision of the head is never justified unless it is so fragmented as to make repositioning impossible.

Fractures of the greater tuberosity in adults are either contusion or avulsion in type. The contusion break shows a large and often comminuted fragment with minimal displacement, and is usually



Fig. 3b.—Same showing reduction when arm is abducted.

produced by a direct fall upon the shoulder. There is little deformity and treatment is simple. The limb is well supported in a sling or a Velpau bandage for from ten to fourteen days and then active motion instituted. The patient should have a full range of motion within two to three months.

The avulsion fracture is produced by direct muscle pull of the supraspinatus. The clinical picture is typical in that there is pain on initiation of abduction of the arm at the shoulder, limitation of abduction, and crepitation over the tuberosity. In recent injuries non-operative treatment is preferred. The arm is immobilized in a plaster spica for three to four weeks with the arm in 90° abduction and 180° external rotation. Watson-Jones states that 60° of external rotation is sufficient.

On occasion it may be necessary to open the shoulder and place a pin or screw through the fragment to maintain position. This is especially recommended when there is separation and upward displacement of a relatively large piece of bone.

Isolated lesser tuberosity fractures are extremely rare and are due to forcible external rotation or violent subscapular pull. Treatment is adduction and internal rotation of the extremity in a Velpau bandage for three weeks.

Impacted fractures of the surgical neck of the humerus account for a great number of disabling shoulder lesions in the aged. It is not unusual for the shaft to be impacted into the head with as much as 80 to 90° of abduction angulation. The head of the humerus is firmly fixed into the shaft and moves with it, so that when the humerus is brought to the side, the head is pulled away from the glenoid fossa and a type of fracture-dislocation results. The joint is completely disorganized. Active motion after treatment ceases is often less than the passive motion.

In the younger patient it is desirable to strive for more accurate repositioning and the impaction should be broken up, if possible by closed reduction. Failing this, open reduction may be attempted.

In the older patient, where early ambulation and a functioning shoulder outweigh the advantages of an anatomical reduction, treatment is by necessity limited. The arm is placed in a sling or a Velpau dressing for a minimal period, usually fourteen to twenty-one days, and then active shoulder motion is instituted.

Probably no group of fractures demands a more vigorous program of physical therapy than those of the proximal humerus, particularly in the aged. The desire to prevent soft tissue contractures with resultant limitation of motion should remain paramount in the mind of the surgeon. To this end he might sacrifice accurate x-ray repositioning and the freedom from pain that goes with prolonged immobilization.

You will have some patients such as these, whom you can cure as well as a "hospital surgeon"—
STENOSIS OF THE ANUS OF FUNCTIONAL ORIGIN—HABITUAL

USE OF LAXATIVES

(C. B. Morton, II, Charlottesville, in *Virginia Medical Monthly*, May)

Some patients have an anal lumen so small that digital examination of the rectum is difficult or even impossible. The difficulty is not due to sensitiveness and spasm, but is a completely inelastic stenosis. In 12 years 90 private patients have been treated for this condition. In many instances the results were highly satisfactory.

In most instances nitrous oxide-oxygen anesthesia was employed. The dilatation was done with plenty of lubricant and a rotary manipulation of the gloved fingers—one, then two, and finally three—introduced as far as the proximal interphalangeal joints, dilating to three to four cm. No sphincter incision was made in any case and no serious

tear of any sphincter occurred. Superficial mucosal cracks were evident in all instances and small hematomas at the anal margin were not uncommon. Some were evacuated by a scissor cut. The patients usually returned home from the recovery room within the hour. Associated hemorrhoids, rectocele, and so forth, were treated at the same time if indicated. No second or multiple dilatations have been employed.

Four commandments were issued for immediate and continued use:

1. No laxatives and no enemas.
2. Some vegetable bulk at both noon and evening meals.
3. Some fruit or fruit juice at each meal.
4. Some fluid, a cup- or a glass-full each hour during the day.

In 58 of 75 cases recently reported by letter the results were satisfactory. Treatment was by digital dilatation under anesthesia and subsequent management of food and fluid intake. Failure to follow directions following dilatation and psychogenic dyscrasias seemed to be the two factors responsible for most of the unsatisfactory results. In the absence of organic disease of the large bowel adequate understanding of the factors relating to defecation, reasonable attention to food and fluid intake, and avoidance of the first dose of laxatives would probably make the use of laxatives forever unnecessary for insuring normal defecation.

MANAGEMENT OF GASTRIC ULCER

(James Graham, Springfield, Ill., in *Miss. Valley Med. Jour.*, July)

In the management of gastric ulcer the primary concern is that a carcinoma not be allowed to go undiagnosed. There are no absolutely reliable criteria for differential diagnosis. Surgery cannot completely solve this problem by subtotal gastrectomy in all ulcers that appear benign grossly. Such treatment has raised gastric cancer salvage rate from 20 to 40%. A further increase in the salvage rate must come from more radical surgery which means total gastrectomy with lymph-node resection.

Since the surgical approach does not eliminate, but only reduces, the hazard of overlooking a carcinoma; and since there are certain hazards inherent in surgical and not in the medical regimen, it would seem wise to employ immediate operation in those instances in which there is obviously a greater risk of error in medical observation; and by the same token, it would seem wise to use the less hazardous test of response to medical management in those instances in which the risk of error is low.

BLOOD VOLUME AND ANEMIA IN CANCER PATIENTS

(J. C. Bateman, Washington, in *Blood*, July)

Hematologic findings are reported in 33 patients with cancer, in eight patients with arrested cancer and in 10 patients without cancer. Volume was variable and seemed to bear no direct relation to the disease. Prolonged impaired alimentation due to dysphagia or apathy in three patients was associated with lower than expected blood volume. Hemoglobin was concentrated when blood volume was increased, elevated when blood volume was reduced. A marked increase above "normal" in blood volume was found in three patients who had received large amounts of stilbestrol. Withdrawal of drug in the one patient observed resulted in reversion toward normal values. Testosterone increased body weight, total blood volume and total circulating hemoglobin in three patients without active cancer. In two patients with far advanced cancer there was increase in weight, in one there was increase in blood volume, but in both there was progressive decrease in total hemoglobin.

DEPARTMENTS

HISTORIC MEDICINE

THE TWO JOHN KINGS

M. PIERCE RUCKER, M.D., Richmond, Virginia

SOME NAMES seem to be predestined to cause bio-biographical confusion. "Edward Warren" is a good example. There were three of them.¹ Edward Warren (1828-1893), the Virginian who was born in North Carolina became, in turn, a country doctor, a medical editor, a professor of surgery, a medical inspector of the Confederate States, chief surgeon of the Egyptian general staff, a practitioner in Paris and a chevalier of the Legion of Honor. He was the author of *A Doctor's Experiences in Three Continents* (1885) and *An Epitome of Practical Surgery for Field and Hospital* (1863). Edward Warren (1804-1878), the son of John Warren, and the brother of John Collins Warren, who was the first to use ether anesthesia in the Massachusetts General Hospital, wrote the *Life of John Collins Warren* (1860), and the *Life of John Warren* (1874). The third Edward Warren was a native of Maine and a business associate of Morton. The second Edward Warren says that the third Edward Warren was not a medical man. He wrote *Some Account of Leotheon; or Who Was the Discoverer?* (1847). These three Warrens have been frequently mistaken one for the other and even the *Index Catalogue of the Surgeon General's Office* shared in the confusion. As a further evidence of the transcendental malediction attached to the name, the original binding of my copy of *An Epitome of Practical Surgery for Field & Hospital* bears the title of *Lawson's History of N. Carolina* and is put on upside down.

"John King" is another case in point. According to Garrison, "John King (1819-93), of Edisto Island, South Carolina, performed a remarkable operation for abdominal pregnancy in 1816 (*Med. Repository*, New York, 1817, n.s., iii, 388-394) saving both mother and child by cutting through the wall of the vagina and applying the forceps, with abdominal pressure exerted upon the fetus from above. He afterward expanded his observations in a volume of 176 pages, published at Norwich, England, in 1818, entitled *An Analysis of the Subject of Extra-uterine Foetation, and of the Retroversion of the Gravid Uterus*, the first book on the subject." From the dates affixed to his name, it is evident that Dr. King was not born when he performed his remarkable operation.

The second John King came into my literary life in 1938. He is not mentioned in Garrison's *History*

of *Medicine*, and I had no idea that any such person existed. I prepared a paper entitled *Southern Gynecologists & Obstetricians* with illustrations, for the organization meeting of the South Atlantic Obstetrical and Gynecological Society. When the paper was published the portraits were grouped together on several pages. It was then quite evident that John King, with his long flowing beard, was out of place. I had gotten the picture from the portrait collection of the Richmond Academy of Medicine and in my haste to get lantern slides ready for the meeting, I did not check any further. When it was too late, I found sketches of John King (1813-1893) in the *Cyclopedia of American Medical Biography*, the *Dictionary of American Biography* and *White's Encyclopedia*. The latter had a portrait of him in addition. The John King that I knew was in none of these reference works. John King, of Ohio, was born in New York City of well-to-do parents, and had time to become a good linguist and to amuse himself with engraving, music and mechanics before he was graduated in medicine from Wooster Beach's Medical School, New York. He devoted many years to practical work in botany, pharmacology, and chemistry, and in 1851 he became a teacher in the Cincinnati Eclectic Medical Institute.

He was the author of the *American Dispensatory* (1855) which went through eighteen editions, and he introduced podophyllin, macrotin, irisin, hydrastis and sanguinaria into medical practice. He also wrote a *Manual of Practical Microscopy*, a textbook on *Obstetrics*, one on *Gynecology* and one on *Chronic Diseases*. He was noted for his equipoise of character and his universal philanthropy.

I began to realize the enormity of my mistake, when I learned that the pictures in my article were catalogued in the portrait collections of the Army Medical Library and of the New York Academy of Medicine, and when I saw the long-whiskered King on the wall of the office of the South's leading gynecologist. To make amends as far as possible for my grievous error, I have made the proper corrections at the New York Academy of Medicine and the Army Medical Library, and am now hunting for a picture of John King, the South Carolinian, for my friend's office. Miss Mary E. Grinnell of the Reference Section, of the Army Medical Library, suggested that Dr. Desmond Koster, Librarian of the Medical College of the State of South Carolina, might help me. Dr. Koster was unable to find a picture, but kindly sent me some unpublished information about Dr. King, which he obtained from Mrs. Ernest W. King, the wife of a descendant of John King. John King (1774-1840) was born at Norwich, Norfolk County, England, December 13th, 1774. He was the tenth of eleven children (the seventh son) of Samuel King (1734-

1810) and Susannah Hawkins (1735-1818). John King came to South Carolina in 1803, and married Mary Burden, daughter of Kinsey Burden and Portia Ashe of Burden's Island, now called Little Britain. There was a portrait of him but it was burned about forty years ago in a descendant's house in Texas. The family knows by that portrait that Dr. King was clean-shaven and blond.

Dr. King was educated in England, interned in Paris for seven years, working in hospitals there. He was quite a linguist, and it is tradition in the family that he spoke seven languages. He wrote medical papers in several languages, some of which the family had, but these were lost some years ago in a fire. In Paris, Dr. King had a dear friend, Dr. Favel, with whom he worked and after whom he named his son.

Dr. King owned three plantations on Wando in St. Thomas' and St. Dennis' parish. He was living on Edisto in 1816, when he performed his famous operation. In the 1830's he made a Fourth of July oration in Charleston.

Dr. King came to America with a coat of arms, but it is not clear whether it was really his, so the family does not claim it. An Episcopalian himself, his descendants are chiefly Presbyterian as they married into Presbyterian families.

John King's brother, James King, came to South Carolina in 1787. He married Theodora Burden, sister of John King's wife. Most of the family descended from James. John had two sons: Samuel Favel King (1816-), who remained a bachelor, and Kinsey Burden King (1813-1853). Their mother died when they were young, and Dr. King took them to England to be educated. Samuel became a doctor, his medical education being obtained at the Medical College of South Carolina. The family has a notebook of his, 1837-38. He is buried in the Presbyterian churchyard near Adams' Run. Kinsey was a rice planter in St. Paul's Parish. He had a plantation, "Clapham," on the Edisto, up the river from Willtown.

John King's second marriage was to a Mrs. Tilden of Philadelphia. The marriage was unsatisfactory and she stayed in Philadelphia much of the time. She spent so much money that Dr. King had to put a notice in the paper saying that he was not responsible for her debts. She had children by a previous marriage, and after her death he looked after these children.

Dr. King died at Adamsville at sixty-six years of age on September 12th, 1840. For his last thirty-seven years he had been a resident of South Carolina. The family thinks, but is not sure, that he is buried at Rose Hill plantation at Willtown.

NEUROLOGIC SURGERY

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THE VALUE OF ANTERIOR FRONTAL LOBOTOMY IN THE TREATMENT OF (1) CERTAIN PSYCHOSES, AND (2) INTRACTABLE PAIN PROBLEMS

SINCE 1935, when Egaz Moniz of Portugal (who in 1949 was awarded the Nobel Prize in medicine for his achievement in this field) first suggested the procedure, anterior frontal lobotomy has been utilized in many thousands of cases for the relief of psychotic patients, many of whom had been subjected to months, if not years, of non-surgical treatment in sanatoria, with indifferent results at best, or with temporary improvement and subsequent relapse. Although not by any means a "cure-all" for every psychotic patient, the operation of anterior frontal lobotomy (a bilateral procedure) has restored many patients to their homes by rendering them much more manageable, and no longer requiring institutional care.

Many modifications of the original Moniz-Lima technique have been developed since the first operations were performed in 1935, particularly in the United States by Freeman and Watts, Lyerly, Poppen, Scoville and Poole, all designed to relieve the psychosis by severing certain subcortical fibers in both frontal lobes. Every psychotic case operated upon in our clinic is carefully selected for operation by a psychiatrist. It is gratifying to see the benefit that often results to these patients, many of them wild and maniacal or depressed and negativistic before operation. It is our observation that the operation most effectively alleviates the psychotic symptoms in the middle-aged or elderly groups of patients with manic-depressive or obsessive psychoses, with senile psychosis, and certain of the melancholics, although occasionally a surprisingly satisfactory result is obtained in the case of a younger schizophrenic. The operative mortality of anterior frontal lobotomy is not over 1 to 2 per cent in leading neurosurgical clinics.

In chronic intractable pain, with or without drug addiction, and usually due to widespread malignancy, anterior frontal lobotomy, either unilateral, or, preferably, bilateral, has been utilized in many cases in our own and in other clinics. At the 1947 meeting of the Association for Research in Nervous and Mental Disease, it was stated that *unilateral* anterior frontal lobotomy should suffice for pain relief in metastatic malignancy and would not be followed by the obtunding or flattening of personality which occasionally has been observed following the bilateral operation. Scarff (1948) reported a series of such *unilateral* operations for the

relief of pain and stated that 66 per cent of the cases had good post-operative results, 18 per cent fair and 15 per cent poor. It is often impressive to see the transformation in these patients from miserable, pain-ridden individuals, demanding large doses of opiates every two to three hours, to relaxed smiling patients from whom most, if not all, strong medication can soon be withheld.

Other surgeons still prefer the *bilateral* procedure, as in the operation for the psychoses, for the relief of (1) pain due to malignancy or (2) the so-called withdrawal symptoms in selected cases of drug addiction. It is useful also in the greatly debilitated individual, emaciated from malignant disease, who probably could not tolerate a cordotomy.

Bilateral anterior frontal lobotomy is also being performed in neurosurgical clinics with gratifying results in cases of tabes dorsalis with severe pain in the legs or lower trunk; in "thalamic pain" in the extremities after strokes and other massive cerebral lesions; in post-traumatic pain in the back and legs due to cauda equina lesions, and in the intractable pain of hysterical contractures of the extremities.

OBSTETRICS

H. J. LANGSTON, M.D., *Editor*, Danville, Va.

ESSENTIAL FACTS ABOUT THE RH FACTOR

A SMALL-TOWN DOCTOR¹ writes to the point on what may be gained through routine Rh testing.

Severe, occasionally fatal, transfusion reactions may be prevented in patients already immunized either by previous transfusions or by pregnancy.

The number of cases of erythroblastosis fetalis will decline, if all Rh-negative female patients, even as infants, requiring blood transfusions, receive only Rh-negative blood. A greater number of cases of hemolytic disease of the newborn will be saved through anticipation of the disease by testing for antibody-formation during the last trimester and thus being able to institute early treatment and transfusions with Rh-negative blood when indicated. Type O Rh-negative blood should be used unless the infant can be satisfactorily typed and compatible Rh-neg. blood of its own type obtained. Only blood of suitable type must be used in the rare case of the Rh-pos. mother with an affected infant.

It may be advisable to limit the number of pregnancies.

From Rh-factor publicity in the lay press many women have unfounded fears that dire consequences may befall themselves and their unborn child. The well-informed physician can allay the

¹ A. K. Johnson, Williston, No. Dak., in *Lancet*, June.

fears of his Rh-neg. patient by telling her the facts about the Rh factor.

Rh-incompatible matings occur in only one in seven (1:7) marriages and in one in 10 (1:10) pregnancies.

The incidence of erythroblastosis in all matings is only 1:252 full-term pregnancies and in incompatible matings in 1:37 full-term pregnancies.

Heterozygous fathers can produce Rh-positive children who will be normal. It is usually possible, even with a homozygous husband, for a woman to bear two or three children without becoming sensitized.

Most Rh-negative women do not produce antibodies readily through pregnancy.

Always do Rh-typing of the individuals concerned before giving a transfusion. Remember that iso-sensitization occurs in less than 5 per cent of cases through pregnancy, but will run as high as 50 per cent where Rh-incompatible transfusions are given.

INCREASE OF FLUIDS IN THE TREATMENT OF ECLAMPSIA

A SERIES OF 25 cases of eclampsia treated on the obstetric service of the John Gaston Hospital from Jan. 15th, 1950, to Aug. 1st, 1950, are reported.¹ During this same interval there was a total of 2,130 deliveries on the in-patient service.

Twenty of the 25 patients were primigravidae, of average age 16.6 years. Of the five multiparas (average 24.8 y.), only one had had eclampsia previously.

Eclampsia was controlled prior to interruption of the pregnancy. No diuretic agents other than water was used and the authors say they have learned how to use water with safety.

The regimen of treatment followed in general is:

1. Glucose, 5%, in distilled water, 1000 c.c. IV q. 6 h. through a Murphy drip at 60 drops per min.—1 liter in 4 to 6 hr.
2. Elevate the head of the bed 18 in.
3. Initial sedation, sodium amytal, gr. 3 $\frac{1}{4}$ to 7 $\frac{1}{2}$ IV.
4. Subsequent sedation, sodium phenobarbital, gr. 3 IM q. 6 hr.
5. Oxygen, 6 liters per min. by nasal catheter.
6. Penicillin, aqueous, 100,000 U. q. 3 hr., IM if comatose or febrile or if membranes are ruptured.
7. Turn the patient every hour until conscious.
8. Insert an indwelling catheter.
9. Measure intake and output and record q. 6 hr.
10. Record every 15 to 30 min. b. p., p., pulmonary edema, fetal heart tones, and uterine contractions.
11. Draw blood for CO₂ combining power, non-
1. F. E. Whitacre, et al., Memphis, in *Southern Med. Jour.*, July.

p.N., total and fractional proteins, packed corpuscular volume, type and crossmatch.

12. In severe cases only, if b. p. fails to stabilize at levels lower than those on admission in 4 to 6 hrs., continuous regional block is instituted in order to reduce b. p. and reduce likelihood of intracranial hemorrhage and severe pulmonary edema.
13. When the p. exceeds 120 per min. without temp. elevation to account for it, the patient is to be digitalized.
14. When the eclampsia is well controlled, usually in 48 hrs., a vaginal examination is done and plans are made to empty the uterus by the most conservative means.
15. When the patient is rational, a low-sodium acid-ash diet is offered and plain water by mouth urged to 6,000 c.c. daily, the IV infusions being discontinued.
16. No ergotrate, stilbestrol, or ice caps are used during or after delivery. Pitocin is used at cesarean section.
17. If sedation other than the barbiturates is needed, magnesium sulfate, 50% sol., 4.0 c.c., IM, q. 4 hr. for six administrations.

We have proceeded in the face of pre-existing edema with no ill effects and with progressive clinical improvement.

All of this group of 25 patients survived. The prompt and consistent improvement obtained and the ease of handling of patients who became reasonably lucid and cooperative within 24 to 72 hrs., favorably impressed us.

While there was occasionally a visible increase in gross edema during the first few hours of treatment, this was followed by diuresis, often reaching considerable proportions. Clinical improvement occurred along with the initial increase in edema and continued with its clearing, which proceeded rapidly, usually being complete by the third or fourth day postpartum.

Respiratory secretions became and stayed fluid and easily manageable by the patient.

Notable, too, was the low fetal mortality. Of the 27 infants born to 25 mothers, 23 survived and left the hospital in good condition.

This is a gratifying report, and it is anticipated that many doctors will be emboldened to employ this rational, simple regimen in preference to others, more complicated and probably less safe.

NEW INVENTION FOR ASSURING THAT THE BABY WILL LEAVE HOSPITAL WITH ITS OWN MOTHER
(Editorial in *Merck Report*, July)

A new invention photographs together the mother's and baby's fingerprints, then records them on a film. It is claimed the picture will show from three to 12 characteristics of identification. Seven are believed to give positive proof. Ink footprints, or wristlets or anklets placed on the

infants in the delivery room, have proved fairly accurate temporary means of identification. However, once mother and baby leave the hospital all means of identification of the baby at some later date are lost. By the use of this latest invention's photographic method, not only is an accurate present means of identification established but also a record is available for the future.

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

NOTES ON THE HISTORY OF PAEDIATRICS IN SCOTLAND

IT SEEMS WELL to call to the minds of such of our readers as will be interested some of the facts set down in a recent article by a scholarly Scot.¹

Till the end of the 18th century the struggle for existence was predominant. Scotland suffered from constantly recurring famines, which together with epidemics of plague, smallpox and other major infections, took heavy toll of child life. In our primitive and mediaeval society the infant stood low in the scale of value. In the 13th century an ordinance forbade mothers placing their young children in the same bed with themselves, "by reason of the frequent dangers arising therefrom." "Wise women" in warding off malevolent spirits and restoring the health of sickly children by charms, incantations and other means, were the constant advisers of the mothers.

Breast feeding by the mother was general by all classes throughout the country's history. Serious doubt was cast upon the legitimacy of an infant if the mother was unable to feed it herself. The duration of suckling up to the 17th century lasted up to two years of age. Wet nursing became fashionable among the upper classes in the 18th century. The home care of the infant and child in the upper and middle classes in Scotland differed in no essential respects from that in England, but during the frequent "lean years" the children of the poor were often bound over or "arled" to the masters of the parents, and in colonial times, even sold into slavery in the plantations.

Prior to the Reformation, song and grammar schools were established by the Church, but these centres of education underwent radical changes at the religious revolution. Efforts to develop schools in Scotland met with little success until the 18th century, and the improvement then achieved marked the beginning of the country's entry into the world of affairs, literature, philosophy, art and medicine. Compulsory education was not successful until reintroduced in 1872, when the whole structure of the administration of education in Scotland was reorganized. In 1908, medical inspection of school children was introduced as well as the provision of

1. H. P. Tait, in *Edinburgh Med. Jour.*, April.

school meals, while in 1913 extension of the medical services was made to include treatment.

Industrial education, especially applied to poor children and orphans, was attempted during the 17th century at Peebles. In Aberdeen a school was opened in 1841 to instruct boys in technical work as well as the three Rs, and to house, feed and supervise them. In 1843, a similar school for girls was opened.

After 1816 there was rapid development of Infant Schools throughout Scotland to provide a moral training, amusement and general attention to the health of children of both sexes between the ages of two and six years.

The first school for the teaching of the deaf and dumb in Britain was opened at Edinburgh in 1760, and the Edinburgh Blind Asylum was founded in 1793, and later had added to it a school for blind children.

From leprosy, syphilis, plague, typhus and cholera, child life suffered heavily. Smallpox was, from the beginning of the 16th until the early 19th century the most terrible of the ministers of death among children. The burial registers for the graveyards of Edinburgh show, for 1764-83, the proportion of deaths from smallpox of those under 10 years of age to every 1000 deaths from the disease at all was 993. In Kilmarnock, 1728-64, of 662 deaths from the disease, 606 were in children under 10 years of age. Kennedy (1715) mentioned a modified form of inoculation practised in the Highlands, "where they infect their children by rubbing them with a kindly pock." Religious objections to inoculation were frequent but many ministers often performed the operation before sermon. The Royal Faculty of Physicians and Surgeons of Glasgow, realising the benefits of Jennerian vaccination, opened a vaccination station in 1801. Compulsory vaccination of infants under six months of age was introduced by the Act of 1863, but rescinded by the National Health Service (Scotland) Act, 1947.

Measles is first mentioned as occurring at Edinburgh in 1735, and severe epidemics spread over the country in 1740-41, 1781, 1799, 1807-08, and 1811-12. In the last two epidemics, Glasgow had a striking diminution in deaths from smallpox and a rapid rise in those from measles. The Registrar-General reports the mortality from measles for 1855-60 was 44 per 100,000; for 1946 it was 2 per 100,000. Francis Home (1719-1813) of Edinburgh published an account of an attempt to apply the principles of smallpox inoculation to measles. He had some success with his method but it was soon forgotten.

Scarlet fever was first noticed in Scotland in 1684. For long, however, scarlet fever and diphtheria were confused and often went under the name of "the putrid sore throat." Severe epidemics

of scarlet fever occurred during the first half of the 19th century, but it ranked below measles and smallpox as a cause of death.

Patrick Blair described himself as having "several Years experience in the Diseases of Children, and applied myself to that part of the Practice of Physic." Graduating M.D. at Aberdeen (1712) he published in 1717 his description of pyloric stenosis in an infant, though of course he did not use that term.

William Buchan, a graduate of Edinburgh (1761) strong advocated the training of girls in child hygiene, a suggestion only now being acted upon. George Armstrong founded the Dispensary for Poor Children in London in 1769, the first institution of its kind in Europe.

John Bunnell Davis (1780-1824), a graduate of Montpellier (1803) and of Edinburgh (1808) published in 1817 a 72-page pamphlet in which he observed that 50 per cent of infants born at that time in England died before their second birthday, largely from lack of maternal milk. He advocated a system of home visitation by "some benevolent ladies."

In Edinburgh the first hospital for children, a small hospital of 24 cots, was opened in February, 1860.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Manchester, Va.

GASTROINTESTINAL SYMPTOMS DUE TO DISEASES OF THE CENTRAL NERVOUS SYSTEM AND NERVE ROOTS

THE THREE COMMON SOURCES of misinterpretation of gastrointestinal symptoms due to diseases of the central nervous system are vomiting from intracranial pressure, metabolic disturbances from pituitary gland dysfunction, and abdominal pain from nerve-root irritation. Keegan¹ calls attention to this important fact, and proceeds.

The commonest neurologic cause of vomiting is intracranial pressure, which may be either acute or chronic: projectile vomiting occurs only with very acute pressure of sudden cerebrospinal fluid block, as with cerebellar tumors. Cerebral tumors have more space to enlarge and the pressure symptoms are not so acute. The most important clue in this type of vomiting is the association of unusual or persisting headache. Children may not complain of headache. A patient with projectile vomiting and ataxia should never be subjected to spinal puncture: there is great danger of herniation of cerebellum into the foramen magnum, causing respiratory paralysis from pressure on the respiratory center.

1. J. J. Keegan, M.D., Omaha, in *Neb. Med. Jour.*, July.

Subdural hematoma may be caused by a very mild bump on the front or back of the head, without loss of consciousness and with few following symptoms and no immediate focal or pressure signs. This blood clot liquefies after a week or two, the hypertonic encysted blood absorbs serum from the surrounding vascularized membrane and enlarges, causing serious pressure signs four to six weeks after the mild head injury, which may have been forgotten. The symptoms then are vague—some headache, vomiting, and mental dullness continuing into stupor and coma. In infants the bulging fontanel, noted in association with what seems like a feeding problem, should suggest the diagnosis.

The most important sign of intracranial pressure is optic papilledema.

The technique of spinal puncture merits consideration. Use of novocaine prevents pain and fearful talk afterwards about the procedure. No needle larger than a 20-gauge should be used, as post-puncture headache is due to continuing escape of cerebrospinal fluid through the hole in the dura made by the needle, increased by gravity when the patient is up. Spinal puncture without accurate manometric measurement of pressure is inexcusable, as it usually necessitates repetition of the puncture. No special manometer is needed, only a sterile connecting tube to a blood pressure manometer with zero reading.

Gastrointestinal symptoms commonly are related to disturbances in the region of the pituitary gland.

Nerve root compression by tumors of the vertebrae or tumors within the spinal canal is a common cause of confusing abdominal pain. Tumors of the vertebrae compressing nerve roots commonly are metastatic from breast or prostate. It is a common mistake when searching for the cause of such nerve root pain located in the abdomen to take x-rays of everything there, and miss by only a few vertebrae the evident bone destructive lesion at the midthoracic level. Remember that the level of the umbilicus is supplied by the tenth thoracic nerve and this nerve root ascends two or three vertebrae higher in the spinal canal before it enters the spinal cord. The breast and prostate always should be carefully examined for primary carcinoma in such cases, as well as the abdominal organs.

Intraspinal tumors give no x-ray evidence until late, when the spinal cord and lower extremities obviously are involved. A fair percentage of these slowly developing cases have some abdominal operation performed before clear neurologic symptoms develop. A high percentage of the tumors which develop within the spinal canal are benign and completely removable.

THE PROSTATE.—The easiest and best way to improve survival rates of patients with prostatic cancer is for physicians to routinely examine all their male patients over 50. Prostatic cancer is an insidious disease, seldom warning of its presence until it has become well entrenched and incurable. More carcinomas of the prostate are diagnosed at autopsy than are revealed clinically. Detection depends almost entirely upon digital examination; and that means periodic digital examination of patients who show no symptoms of the disease. In particular, physicians should insist that their male patients over 50 are examined regularly, because 20 per cent of all men over 50 who have prostate trouble have prostatic cancer.

—*The Cancer Bulletin, U. of Texas, June.*

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

TRAINING SCHOOLS FOR NURSES

THERE was a time when the training of a young woman to become a nurse was much simpler and I believe more satisfactory than it is today. Somehow in the minds of the leaders in the profession there has crept up an opinion that in nursing we should have specialization as we do in medicine. While this may be true to a limited extent, what the patient needs from a nurse is the same it has always been.

The writer has been tremendously interested in nursing education for many years, and a recent survey has revealed some startling facts in the present-day nursing curriculum. Called by whatever name, a half-trained or an over-trained nurse is not satisfactory to the patient. Some of the names given to the nursing personnel today have little meaning and perhaps less practical use.

The "professional nurse" is supposed to be better qualified from a scholastic standpoint and capable of being a teacher or leader in the training school. This all sounds good, but when the facts are analyzed, it usually means that the nurse has more money than the average girl who goes in training, a desire to obtain a higher education and, perhaps, following the line of least resistance, continues on in school because she can learn easily. Not infrequently this type of nurse is over-educated for the job of nursing and there might be some difficulty for her to come down to the level of the average R.N. of yesterday. There is a place for this type of nurse, but a different name should be chosen or a different degree given so that it would mean something, rather than in an indirect manner cast a shadow over the usual R.N. who has been taught to consider herself to be a professional person.

Another recent name is that of "practical nurse." This, if not looked down upon, is a good name for one who is going to nurse a sick person. But propaganda has classified "the practical nurse" as an uneducated, poorly trained helper, to be employed

only when no one else can be obtained. There was a time when the nursing profession did not allow practical nurses to nurse on the same hospital hall as student nurses in training for the degree of R.N. The nursing situation has now go so far out of control, due to the shortage of R.N.'s, that the nursing leaders are helpless to prevent practical nurses from taking a large part of the field of nursing from their group.

When "nurse's aides" came in the leaders in the R.N. group had a notion that student nurses should not do any manual work, that no nurse should wash feet, comb hair, tidy up a dresser, wipe off a window-sill, or sweep a room. It was evident at that time that the nurse's aide would encroach upon the field of nursing to a much larger extent than was recognized by the nursing leaders. Now we see the nurse's aide's services enlarged and the name changed to "practical nurse." There is no doubt in the mind of the writer but that the practical nurse will do 90 per cent of the nursing in the near future. It is to be hoped, however, that the training now offered for practical nurses will be lengthened, that ethics will be more thoroughly taught, and that a name will be given to that type of personnel that will not carry the *stigma* which should never have been placed upon the word "practical."

One suggestion for a name would be "the nursing R.N." or "practicing nurse" in contradistinction to the more highly educated person who has taken the nursing course who could be called the teaching nurse. At any rate a classification of the meaning of the various types of nurses is badly needed as well as quadrupling the number of practicing nurses, by whatever name called. We are not meeting the need by talking about the various classes of nurses, when all the sick man wants is someone to wait on him.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

CONVULSIVE DISORDERS AND THEIR TREATMENT

TWO DECADES AGO, Berger's discovery that the cells of an epileptic's brain give off electrical charges marked a long step toward happier and more wholesome living for epileptics. The encephalograph records the frequency and voltage of the electrical discharges upon a moving strip of paper. An encephalogram may disclose that one's consciousness is abnormal in rhythm or frequency; and, if the rate in the cortex speeds up to 30 or 40 a second, the patient may lose consciousness or undergo a convulsive seizure, with complete or

partial loss of consciousness. There may be either involuntary movements of different parts, or no muscular spasm. The seizure itself is an "epilepsy."

The causation of *genuine epilepsy* is unknown, despite thousands of years of study. Among the causes of *symptomatic epilepsy* are brain tumor, arteriosclerosis, infections, general paresis, brain injuries and toxic conditions. There are some 500,000 epileptics in this country, and epilepsy is on the increase. Within recent years many organizations have endeavored to interest the public in epileptic children and their needs. Rehabilitation programs have been set up, and much excellent literature has been disseminated.

The water-restriction regimen, the ketogenic diet (rich in fat) and other therapies, the hyperventilation test of the lungs and the pitressin-superhydration test for determining the type of epilepsy, have signalized progress in the field.

Hinsie states that many *epileptoid* (*coidos*, like) persons; *i.e.*, persons who have some symptoms of epilepsy but no convulsions—are treated for years for physical complaints which are only variations of epilepsy. Encephalograms show the epileptic type of brain wave tracing. Some of these patients experience fugues, and are likely to wander far and to perpetrate crimes without being aware of their misdeeds. Such a patient is likely to perform his duties automatically, yet fail to know that he has carried them out.

With only fifty thousand epileptics hospitalized, out of a total of 500,000 recognized victims, the problem of caring for this group in home, society and industry is one in which family doctors must have the co-operation of parents, teachers, social workers and the general public. Epileptic colonies and traveling epilepsy clinics have done much good. One state recently reported 50 per cent of a group of 43 epileptics had become self-supporting.

Psychotherapy for the epileptic sufferer in brief interviews with the psychiatrist have benefited some. Family doctor has the main place in bringing the epileptic to understand his condition and helping him to live a wholesome, happy and useful life, and in ordering such medication as is indicated. Showing the patient that his encephalographic tracing while medication is continued looks just like that of a normal person will encourage to co-operation. Every family doctor warns his epileptic patients against exposure to situations in which a sudden attack would produce a hazard.

The epileptic, if his condition permits, should be encouraged to prepare himself for a suitable career, the very planning for which proves a valuable therapy in itself.

In addition to the stand-by of a hundred years—bromides—thiantoin, phenobarbital, dilantin, me-

baral and mesantoin are all effective in the treatment of the grand mal attacks, whereas petit mal and the psychomotor attacks have continued difficult of control by drugs. Mesantoin and tridione are widely used in these types of seizures. Tridione also aids in grand mal attacks, and IV is beneficial in status epilepticus. Also effective in this type of epilepsy is phenobarbital sodium IM (1 gr. for children; 3 for adults, repeated in 2 h. s.o.s.) Four to 15 c.c. of paraldehyde, rectally, is effective in children. Averin (2/3 anesthetic dose), rectally, is also effective. This may be substituted by ether anesthesia by the open drop method.

Epileptics suffering from more than one type will react favorably to a variety of the anticonvulsants.

Though epilepsy is seldom fatal long-continued grand mal seizures (status epilepticus) has caused many deaths. Some died after three or four hours, while others succumbed after seizures had continued for 24 hours. For interrupting these seizures, an injection of 8-10 c.c. of paraldehyde is made in the gluteal muscle, followed by 5 c.c. q. ½ hr. A potent drug recently placed on the market, phenurone, is reported effective in all types, particularly the psychomotor. Personality disturbances have followed its use.

Among children, the ketogenic diet is still a favorite with some therapists. Group therapy has a place of importance in the treatment of the epilepsies. When other therapies fail, surgery is to be resorted to in some cases. Only when medical management proves ineffectual, is surgery advised in focal seizures. Administering ECT to epileptics tends to relieve them of tension, homicidal and suicidal tendencies and to render them amenable to psychotherapy.

CONVULSIVE DISORDERS IN CHILDREN

(Herman Yanet, M.D., Associate Clinical Professor of Pediatrics, Yale University School of Medicine; Medical Director, Southbury Training School, in *Bul. New York Acad. of Med.*, July)

During the last 10 years, i.e., since the introduction of more effective anticonvulsive drugs, we have not had occasion to refer a single epileptic child for surgical removal of cerebral focus. Also, during this same period, we have completely given up the use of the ketogenic diet for the control of convulsive manifestations.

The four drugs in common use are: phenobarbital, dilantin, mesantoin and tridione. In most cases, these drugs are used in various combinations. The selection of drugs depends primarily on the variety of clinical manifestations and the type of EEG abnormality exhibited.

Status epilepticus represents one of the few emergencies in the treatment of convulsive disorders. In our experience, the most effective drug is adequate dosage of sodium phenobarbital by IM injection. The starting dose is 5-7 mgms. per kgm., depending on severity and interval of time since onset. Additional injections of 2-3 mgms. per kgm. at 20-30 min. intervals are given as needed. It is unusual for the total 24-hour dosage of the drug to exceed 12-15 mgms. per kgm.—average 10 mgms. per kgm.

Personality and behavior difficulties in the epileptic child can usually be traced to parental and family tensions, much of it due to unwarranted apprehensions. Many believe that every convulsion produces irreversible cerebral damage and that, unless immediate and complete control of spells is achieved, this will lead to mental deterioration. This is untrue. So is the belief so frequently expressed, that the spells will invariably give rise to "epileptic personality." Actually, this results from continued mismanagement of the child; the same type of response is to be expected in any child with a chronic disease who is equally mishandled.

These facts must be clarified for the parents, particularly the mother. The possibility of future spells must not be allowed to significantly interfere with a normal daily program. The epileptic child should be encouraged to participate in practically all the activities suitable for his age. Certain calculated risks must be taken. These can be minimized, however, without drawing too much attention to the child. We do not believe strenuous activities in any way adversely influence the occurrence of spells.

There is little the mother can accomplish as regards spell-control by excessive attention to dietary or bowel habits; readjustment of sleep and rest programs; and the many other annoyances that anxious parents inflict on children in this and comparable conditions.

Only rarely have we found necessary direct psychotherapeutic procedures.

Fortunately, the need for institutionalization of an epileptic child of normal intelligence seldom arises.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

PRACTICAL INTRAVENOUS TREATMENT OF DIABETIC COMA

"EVEN in the larger hospitals," says a Harvard graduate of 1910,¹ "the mortality of diabetic coma continues excessive, largely because of the teaching of too much theory and the practice of too little common sense."

This sensible, matter-of-fact doctor goes on:

The syndrome of unconsciousness, dryness of the skin, acetone breath, Kussmaul breathing, and abnormal quantities of acid radicals, sugar, sodium and potassium in the blood and urine—the most reliable guide to treatment is acetone and diacetic acid.

The proper management he outlines as follows: After urinalysis has confirmed the diagnosis and blood has been obtained for supplementary tests, a saline transfusion is started 2 to 3 drops per sec. Immediately, into the tubing near its attachment to the IV needle, insulin is introduced, 10 units per min. Since the average case requires 600 to 700 units to restore consciousness, this would probably require an hour. Specimens of urine to be examined with dry reagents are obtained through an indwelling catheter q. 10 to 15 min., more often at critical stages. Only the initial b. s. determination may prove trustworthy until the discontinuance of

1. G. W. Haigh, Worcester, Mass., in *Clinical Medicine*, April, 1951.

the IV therapy. As soon as the patient has come out of coma, a liquid diabetic diet and ample subcutaneous insulin. After recovering consciousness the patient may require even as much as 500 units of extra insulin, in addition to that needed for utilization of his food, before the ketosis has been dispelled.

Since hyperinsulinemia responds instantly to the IV injection of glucose, during the period of intensive IV treatment with the specific hormone, a syringe with a solution of glucose should be kept for immediate use. Like the insulin, this can be injected into the infusing tube at the rate of 4 c.c. 10 per cent sol. q. 3 to 5 min., while checks are made upon the urinary reactions for ketones and sugar.

As diabetic coma is not uncommonly associated with other diseases, at times, this routine may have to be modified. The patient's other diseases should not be permitted to delay or interfere with the institution of appropriate measures for combating the hypoinsulinemia.

"This rational intensive management of diabetic coma enables the physician to meet the emergency with directness and effectiveness and with the minimal assistance and equipment."

TREATMENT OF RINGWORM OF THE FOOT

First and secondary pyogenic infection requires treatment as in any pyogenic dermatitis. The local treatment of acutely inflamed lesions, with or without secondary pyogenic infection, consists primarily in the use of wet packs or soaks of Burrow's solution 1 to 20, for $\frac{1}{2}$ hr. t.i.d., with bed rest in more severe cases, 20, or a 1:10,000 potassium permanganate solution, are very useful.

In mild, subacute and chronic cases, antifungal therapy may be instituted directly. Asterol dihydrochloride "Roche," practically odorless and colorless, is available as 5% tincture, 5% ointment in a water-miscible Carbowax base, and 5% dusting powder. The ointment is to be applied at bedtime; the tincture may be sprayed on or applied with a swab to the lesions in the morning; the powder should be dusted thoroughly into the socks and shoes daily. It is advisable to continue active therapy for two to three weeks following apparent clinical cure, and that the antifungal Asterol Dusting Powder be applied regularly to the socks and shoes of susceptible individuals as a prophylactic measure—particularly during warm weather.

For the frequent allergy factor, thephorin "Roche," one 25-mg. tablet t.i.d.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

DIAGNOSTIC DRIFTS, DECEPTIONS AND COMMON MISDIAGNOSES¹

FAILURE of fever to develop in response to a severe infection calls for a grave prognosis. Fever occurs in malignant diseases, especially Hodgkin's disease, in toxic goiter, tuberculosis, syphilis, un-

¹ M. P. Neal, Columbia, Mo., in *JL. A. M. A.*, June 9th.

dulant fever, thrombosis-embolism-infarction phenomena and nervous exhaustion.

The diagnostic blood findings or (when in the aleukemia phase) bone marrow films, take the diagnosis of leukemia easy.

Brucellosis masquerading under many forms and symptoms can be diagnosed in the acute stage without reasonable doubt only on isolation by culture of the causative organism. Many whose condition has been diagnosed as chronic brucellosis have been found to be free of that disease and to have, or show evidence of having been suffering from, a malignant growth, leukemia, Hodgkin's disease, toxic goiter, hypothyroidism, tuberculosis, syphilis or nervous exhaustion.

For a large group, including hypothyroid persons sensitive to cold, dry skin, constipation, nervousness, vertigo, often a puffy face; and mental lassitude in school "flunkers" or "repeaters"—thyroid is curative.

One of the sundry manifestations of syphilis is prolonged fever. Positive or negative serologic tests are not conclusive for or against. False positive serologic reactions for syphilis may be found in respiratory, infectious and febrile diseases, especially malaria and infectious mononucleosis; and following immunization, significantly that against tetanus and smallpox.

Thrombosis and embolism are apt to follow gastric and pelvic operations. Fatality usually occurs between the sixth and 11th days following trauma, surgery or delivery. Pulmonary embolism is responsible for 80 of every 1,000 postoperative deaths; for two deaths in every 1,000 operations.

A negative ECG in no sense indicates an undamaged myocardium. It is a valuable supportive finding—not a final test. When there is absorption from an area of myocardial necrosis, the blood and sedimentation rate becomes more rapid and so persists, even after the fever, the leucocytosis and neutrophilia have disappeared. This test is of value in differentiating myocardial infarctions from angina pectoris, in which the rate is unaltered.

The general practice of administering anti-pernicious-anemia elements in conditions undiagnosed or in common anemias, is wasteful, expensive and useless.

Malnutrition can exist on three square meals daily. Much of the thought expended on sex education, anti-alcohol and cancer-control campaigns could with profit be expended on the problem of malnutrition. Too many reach for a candy bar when they need an apple or orange.

A child with nausea, vomiting, fever and abdominal pain may be given a diagnosis of appendicitis and be operated on, with chagrin to consultant and surgeon, who ignored the acetone-loaded urine, or failed to have a urinalysis and leucocyte count.

Among men heavy sweating and loss of sodium chloride may bring on myalgia or heat cramps which may be mistaken for an acute abdominal infection.

Helminthic manifestations in our population are estimated as 31 per cent; diabetes mellitus 0.4 per cent; syphilis by serologic tests 2 per cent; and blood counts show a blood dyscrasia in a small fraction of 1 per cent. Intestinal parasites are ignored many times and commonly missed. In some localities physicians are ever conscious of the possibility of malaria, hookworm, ascaris, oxyurias and amebic infections.

Nervous exhaustion is a fairly common condition, yet many times the symptom complex is misinterpreted. Many living in anxiety states have prolonged unexplained fever and other symptoms without demonstrable organic basis. Relief from responsibilities and anxieties, change of environment and a regulated schedule of work and play with a balanced diet frequently work magic.

AN EXCESS OF VITAMINS CAN DO HARM

HYPERVITAMINOSIS A is a disease entity of late infancy and early childhood, the result of a prolonged and excessive intake of vitamin A, manifested by loss of appetite and weight, fretfulness, low-grade fever, itching rash, sparseness of hair, liver enlargement, and exquisite pain on pressure over the long bones. Levels of vitamin and lipids in the blood serum are high. The long bones are affected by periosteal proliferation.¹

Comment: The extensive use of cod liver oil and its concentrates and the paucity of reports on any of their harmful effects in human beings may be responsible for the generally accepted opinion that the routine administration of cod liver oil in high dosage is harmless. There is little doubt that many more human instances of hypervitaminosis A will appear in the near future. The awareness of the existence of the syndrome will greatly contribute to its earlier recognition.

The vitamin A blood level during health tends to remain constant, under wide variations of intake. Regulation is believed to be governed by the liver. The hepatic level is proportional to the duration and size of the dosage; it is difficult to raise the plasma level beyond the normal maximum except for a few hours with excessive intake of vitamin A; the blood concentration is independent of the quantity stored in the liver and becomes related to the vitamin A level in the liver only after the hepatic stores have become depleted. However, with excessive intake over a long period of time, abnormally high levels are obtained, the hepatic regulatory mechanism having failed.

Fatty infiltration is found in the Kupffer cells of I. C. T. Fried, M.D., and M. J. H. Grand, M.D., in *Am Jour. Dis. of Children*, March, 1950.

hypervitaminemic animals, suggesting that supersaturation of the liver is largely responsible for the toxic manifestations. All the reported instances of this disease disclose hepatomegaly. However, the laboratory data indicate no consistent findings of hepatic dysfunction. It has been shown that a derangement in one hepatic function does not necessarily involve other functions of the liver. This may possibly explain the normal values for hepatic function in both our cases. Since a specific hepatic function test for abnormal vitamin A metabolism is not available, the nature of the faulty process must await evidence of pathologic involvement in human liver.

PERICARDITIS MAY BE BENIGN AND MAY BE CALLED MYOCARDIAL INFARCTION

(Louis Wolff, Boston, in *New Eng. Jour. of Med.*, June 28th)

Acute idiopathic pericarditis is a benign affection of the pericardium, infectious in nature, and probably of viral origin. It is frequently characterized by chest pain that may be similar to that occurring in acute myocardial infarction and dissecting aneurysm. With the onset of pain a pericardial friction rub is audible, or the ECG displays the characteristic pattern of acute pericarditis. The rub is easily heard and may persist for days or weeks. A characteristic feature of the pain is its aggravation at the very outset by inspiration, cough, bodily motion, swallowing and the recumbent position.

Effusion does not occur, or is small. Usually enlargement of the cardiac silhouette is noted, at times reaches striking proportions. The discrepancy between the enlarged heart shadow, suggestive of a large effusion, and the persistence of cardiac pulsations, though feeble, is noteworthy.

Pericardial involvement occurs in acute myocardial infarction in one-fifth of the cases, usually requires at least 24 h. The friction rub lasts but a few hours or one or two days at the most. Effusion usually does not occur. A persistent rub or its initial appearance or recurrence after first week, or pericardial effusion, suggests that the diagnosis of acute myocardial infarction is wrong, or it is complicated by some other condition. In patients treated with dicumarol serious consideration must be given to the possibility of pericardial hemorrhage consequent to hypoprothrombinemia.

SECOND ATTACKS OF POLIOMYELITIS

(A. L. Hoyne, Chicago, in *Jl. A. M. A.*, June 23rd)

A second attack of poliomyelitis with fatal termination and autopsy findings is presented. It is probable that this is the only reported authentic second attack with fatal outcome. Moreover, it is the first case recorded with complete pathological examination. On gross and microscopic examinations the nervous system exemplified evidence of both recent and past pathology. It has been suggested that a second attack of poliomyelitis is due to an immunologically different strain against which the patient has acquired no immunity.

DESPITE A VAST AMOUNT OF RESEARCH no great stride has been made in the clinical management of the epidermal mycoses.

- J. H. Mitchell, Chicago, in *J. A. M. A.*, June 9th.

YOUNGEST MOTHER.—Escomel's report (1939) of the youngest mother on record, a Peruvian girl of five years and eight months, was an example of constitutional precocity.

Hugh Jolly, in *Proc. Royal Soc. of Medicine (London)*, June.

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

MEDICINE IS Wholly ART

A WISE FAMILY DOCTOR¹ in a town of 5,000 has written an article which, were it but heeded as it should be by the medical schools and the medical profession, would solve 90 per cent of our problems of alleged scarcity of hospital beds and doctors, and knock in the head all schemes for socializing medicine.

The gist of this Duke graduate's article is here reproduced.

Most of us have watched a family doctor at the bedside plying the art that is medicine in such a way that we could see the patient brighten up, show renewed confidence and start getting well. The essence of this art is so elusive as to defy analysis in terms which "scientific" modern doctors would understand.

The art of medicine includes ability to advise a young couple as they come for advice the day before their marriage. A keen power of observation, tact, sympathy, understanding, a sense of humor, as well as a scientific knowledge of anatomy, physiology, and gynecology, are required to enable the physician adequately to advise his young patients. Underlying this ability is the physician's own family and cultural background, his knowledge of economics, his own home life and his philosophy of life.

At the bedside of one who has had a coronary thrombosis, knowledge of the patient, his family, his economic circumstances and other factors available to one who is truly the family physician, makes it possible for the person, whom the cardiologist, roentgenologist, and pathologist may refer to as "only a GP," to do a superior job of preparing this patient to face life again despite newly imposed limitations.

The art of medicine protects the physician from defeat when faced with such problems as are presented by the unmarried high school girl seeking some desperate escape from pregnancy; by the war veteran who can't overcome his nightmares of battle horrors; by the faithful wife and mother driven to distraction by a shiftless, drunken husband; by the hopeless, cancer-ridden grandfather; and by that whole field of sufferers from psychoneuroses who need someone to understand them and to satisfy them that there is nothing organically wrong, without giving them the impression that you regard them as complainers without cause.

Deficiencies in our present training program for physicians account, in part, for the apparent low level to which the art of medicine has fallen. Putting "the scientific method" way above all other

¹ C. P. Bunch, M.D., Artesia, New Mexico, in *Rocky Mtn. J. Ed.* It., May.

factors in education is not confined to medicine. In large cities one finds "corporation," "criminal," and "insurance" lawyers; ministers "specially trained" in pulpit oratory, or in organized social service; technical teachers in school systems who can teach our children to type or to run a lathe. There are few lawyers who can serve as advisors and counsellors for the family in all its legal problems; few pastors who visit in the home regularly and nurture the spiritual lives of the family in an age groping for God as never before; and few teachers serving as intellectual models, guides, and counsellors for our children.

Grave is the responsibility on the medical profession to produce better-balanced personalities who can recognize and deal with a broken heart as readily as a mitral stenosis, who can advise Junior about choosing a lifework as well as a leg brace, who can treat hysterical aphasia as well as laryngitis.

The foundation of the art of medicine lies in motivation. There must be a large element of altruism, a desire to be of service to people who need him, along with a well-grounded spiritual philosophy of life—not necessarily orthodox—to sustain the medical student, intern and young doctor as he pursues the long, strenuous preparation required.

There is an alarming neglect of all college courses except those in the physical sciences. The young doctor gets through his training sooner, but the saving is not justified. The high school does not provide the prospective doctor with all he needs to know of English grammar and composition, public-speaking, history, government, sociology, psychology and philosophy. Knowledge of economics and religion helps too in laying the groundwork for the art of medicine—the development of the well-rounded man.

Osler's writings along with those of Hippocrates and other greats in the history of medicine will help to stir in the young student the ideals and the ambition to be a "healer of men"—not just a robot of science.

It is questionable if either the best two-year rotating internship, or the plan of one year medicine and one year divided between pediatrics and obstetrics, provides adequate training in the art of medicine. An additional three- to 12-months' preceptorship under a good general practitioner would give a more practical training in the art as well as the science of medicine. If all medical school graduates were required to spend several years in general in general practice, then specialists would be able to view patients as wholes, and many patients would be saved needless operations, now performed because of a fine technical surgeon's lack of knowledge of the broad field of medicine and humanity.

All this is fine. No thoughtful doctor can dis-

sent. But the essayist might well have gone further, and said medicine is not part art; but medicine is all art. Medicine is an art built on many sciences. The suffix -ology means science. The art which is medicine is based on the sciences which are physiology, pathology, psychology, histology, pharmacology, osteology, bacteriology, mycology, and so on. This should be plain to all, even the wayfaring man. And it is no mere academic differentiation. It is of the greatest practical importance, so much so indeed, that on its recognition may hang the survival of medical practice as we know it—as it has been known these hundreds of years.

CHOICE OF ANESTHETICS

WITH the multiplying of the agents used for producing anesthesia, and the reports from various hospitals that this or that agent is used almost exclusively, the problems of relative merit and relative safety in different conditions at different ages have become confusing in the extreme. An essayist¹ whose contribution shows discrimination is quoted on this subject of importance to every doctor of medicine.

In infants the agent of choice is still ether, given in an open system. Endotracheal tubes are indicated only in open-chest surgery, or when the maintenance of a free airway without them is doubtful. Adolescents, with their low pain threshold, require more premedication. For pentothal sodium anesthesia they often need large doses and then will sleep for alarmingly long periods.

Resistance to free respiratory exchange is poorly tolerated by the aged. They do better on open systems. Endotracheal tubes are well tolerated and should be used freely. Preoperative and postoperative medication, quantity and concentration of local anesthetic agents and of general anesthetic agents can be reduced. Because of its circulatory effects, high spinal anesthesia should not be used in the aged, but below the level of the tenth thoracic segment it is one of the safest methods in this age group.

Occasionally it is almost impossible to maintain a free airway without an endotracheal tube under general anesthesia in short, thick-necked individuals. A deep Trendelenburg position can cause respiratory acidosis and hypoxia in corpulent patients.

Pregnant women are more sensitive to sedatives, analgesics, and general anesthetic agents. Regional methods are the choice for obstetric procedures, especially for abnormal pregnancies. These methods interfere the least with maternal and fetal metabolism and, if administered correctly, their circulatory effect is negligible.

Whenever feasible, shock should be corrected

first. For the patient in shock, cyclopropane is the agent that conforms to the specifications most closely. If possible dehydration should be corrected. Then a combination of a muscle relaxant, e.g., syncurine with pentothal sodium, and a 50:50 $\text{N}_2\text{O}:\text{O}_2$ mixture is very satisfactory.

For the patient with circulatory disease, endotracheal tubes can be used freely. A continuous drip of 0.1 per cent procaine during anesthesia can prevent the development of arrhythmias in the patients with cardiac disease.

Except for acute respiratory infections, where irritating inhalation agents are contraindicated, endotracheal oxygen-ether is the general anesthetic agent of choice for surgery on those having respiratory disease.

Metabolic diseases should be corrected. If possible regional or spinal anesthesia should be used in diabetes. Pentothal sodium can be given the compensated, and cyclopropane the non-compensated diabetics. With adequate sedation, hyperthyroid patients can be operated upon under local or regional anesthesia. In cases in which tracheal colliapex is a possibility, endotracheal anesthesia with pentothal sodium and $\text{N}_2\text{O}:\text{O}_2$ is recommended. The hypothyroid patient's tolerance to sedatives and analgesics is very low. If general anesthetic agents have to be used, cyclopropane or ether should be the choice.

For the patient with liver and kidney disease, whenever possible, regional or spinal anesthesia should be employed. As a general anesthetic, pentothal sodium with $\text{N}_2\text{O}:\text{O}_2$ and synthetic muscle relaxants is the first choice. The amount of pentothal required by patients with liver disease is markedly decreased. In kidney disease, pentothal sodium and cyclopropane are preferable to ether. Spinal anesthesia, provided that the blood pressure can be maintained, has a beneficial effect on kidney function by increasing the blood flow to this organ.

In neurologic disorders ether:oxygen seems to be the safest anesthetic agent. In brain surgery, when the cerebrospinal fluid pressure is increased preoperatively, or its increase must be avoided during operation, the pressure can be regulated by the use of a spinal needle kept inserted.

A UROLOGIST ADMITS THE G. P. CAN DO SOME THINGS IN THE UROLOGIC FIELD

SURELY, from the point of view of the patient, the family doctor is one of the most important members of the team, says a prominent urologist.¹

And just between ourselves, Dr. Hess, the patient's point of view is the correct one, and the patient would go further and say the family doctor is the most important member of the team—in

which the patient would express the wisdom of the Aesculopian serpent.

Dr. Hess goes on to show that the light that shone upon him some months ago² has not faded. Read on.

To refer everything that comes along—all nasopharyngitis to the laryngologist, all sprains to the orthopedist, all headaches to the neurologist, and all affecting the genitourinary organs to the urologist is a good way to whisk oneself quickly out of the practice of medicine.

Chronic granular urethritis—urethra red, narrowed with everted mucosa—is frequently seen undiagnosed because unexamined. All that is necessary is to—in the office—cocainize, dilate with sounds, and apply firmly silver nitrate.

One couple took their two-year-old son to two G.P.s. and two pediatricians, spent four months of worry and a good deal of money, with no results—because of a condition that took one minute to diagnose, 10 minutes to correct. The baby had an excoriated, crusted, bleeding urethral meatus and an extensive diaper rash. Treatment had consisted of dietary changes, acidification of the urine, lotions, salves, and compresses. On some of these "routines" there had been misleading temporary improvement. No one had taken enough of a look to identify a pin-point meatus that required only a simple meatotomy.

Too few doctors doing routine neonatal circumcisions pay attention to the caliber of the meatus. At the time that the circumcision is done (whether by clamp or any other method) it is easy to perform a meatotomy.

Foreign body in the urethra or bladder is not a diagnosis which seems to occur readily to most doctors. Unless the doctor is suspicious, and careful in his questioning, the diagnosis is generally missed. It is a matter to be considered seriously in any urethral irritation for which no explanation is obvious.

It is rare for any real difficulty to be found in introducing a catheter. A No. 20F or 18F catheter is rigid enough to pass through most urethras without a guide; when a guide is used great caution should be exercised in utilizing the added rigidity. In catheterization use of an anesthetic jelly prevents pain and catheters pass more easily.

An enlarged prostate impedes outflow of urine, but is seldom a major hindrance to the ingress of a catheter. In proper instrumentation, the tip of the catheter or instrument is passed with ease to the external sphincter. At this point, a firm, gentle, steady pressure will overcome the muscle tonus; but short jabs will accomplish nothing. A huge adenoma, a contracted vesical neck, or a dense stricture calls for special technics. With a little patience and gentle manipulation in a well anes-

1. E. Hess, M.D., et al., Erie, Pa., in *Jour. Med. Soc. New Jersey*, July.

2. See *S. M. S.*, April, p. 132.

thetized and well lubricated urethra, it is generally possible to slip a filiform through a stricture and into the bladder. If this filiform is fastened in place with a little adhesive tape about the glans, the patient can usually void reasonably satisfactorily. This converts an emergency into a deliberate case.

Catheterization should be kept as aseptic as possible. The meatus should be well cleansed with 70 per cent alcohol in the male, or in the female with soap and water followed by Zephiran*. It is best to handle the catheters entirely with sterile instruments; and to insert a catheter and hold it in place with adhesive strapping, or to use a retention balloon of the Foley type, until the necessity for catheterization is past, giving adequate urinary antiseptics the while.

Perhaps 10 per cent of all injuries in which there is a pelvic fracture are complicated by urethral or vesical rupture. In these cases, the *immediate* repair of the rupture is the matter of prime importance.

The urinary tract of the diabetic patient is particularly easy to infect, and it should never be the role of the physician to aid and abet such infection. Urethral instrumentation is never a completely benign procedure; in the diabetic person, it is fraught with additional dangers.

*Winthrop-Stearns trade name for their brand of high molecular alkyl dimethyl benzyl ammonium chloride.

THE BLOOD PRESSURE OF A MAN IN PERFECT HEALTH MAY BE CONSIDERED ABOVE "NORMAL"

SOME 20 YEARS ago, in a meeting of the Medical Society of the State of North Carolina, I expressed the opinion that it was a bad day for humankind when the blood pressure apparatus was invented; and a professor of medicine, present as a guest, expressed agreement.

A Columbia group's¹ report on a study which revealed the explanation for one among the most serious of the abuses of this instrument is abstracted and some comment interpolated.

Before 1900 the main interest in blood pressure centered about the systolic pressure; today more attention is paid to the diastolic pressure. By the 1920's 95 mm. of Hg. had become commonly accepted as the upper normal for diastolic.

During World War II, the opportunity arose to obtain b. p. readings in 74,000 persons who were in average good health and able to work regularly in industrial plants in various sections of the country. Executive, clerical and manual workers, skilled and unskilled, male and female, were used. Where any doubt existed the data were not used. The data actually tabulated covered a sample of 16,000

persons (8,000 men and 8,000 women). The age range was 16 to 65 years.

The range of systolic pressure increases gradually with age, after 50 it is slightly higher in women. At 16, the lower limits of s. hypertension for the male is given as 145 (normal range 105-135); in the female 140 (normal range 100-130). At 55-59 the lower limit of s. hypertension for the male is 180 (normal range 115-165), for the female it is 185 (normal range 110-170). Borderline cases may belong to the normal or hypertensive group depending upon their clinical status (history, physical examination, cardiac enlargement, kidney disease, etc.) The same gradual increase may be noted in the diastolic readings, but here the increase is less marked.

From time to time, clinicians have pointed out the fallacy of accepting rigid and fixed criteria to delimit the normal from the pathological. Accordingly, we have the problem of obtaining new limits of normal and abnormal blood pressure. Data based on 74,000 b. p. readings are presented, which raise the limits of b. p. currently accepted as normal.

Blood pressure readings must not be interpreted entirely literally. The b. p. is only one factor to be considered in the determination of the clinical status of the patient and it must be evaluated in the light of the history, physical examination, eye-ground changes, x-ray examination, functional tests of the heart, etc.

It may be necessary to revise much that has been assumed on the basis of correlation between moderate "hypertension," according to the old criteria, and various conditions—for example, coronary artery disease and coronary occlusion, cardiac enlargement, arteriosclerosis and diabetes.

Moderately "hypertensive" patients should have the benefit of the knowledge that their b. p. is within normal [at least, in healthy] limits, and does not at all mean that their expectation of life is below average. Much therapy now being employed to try to lower the b. p. of these patients will no longer be considered necessary, and should be discontinued, and reasons given the patients.

It is anticipated that the application of the new limits must also have widespread effect in industrial and military medicine, and in the life insurance field. In the industrial field, many men, particularly those over middle age, who have been rejected because of so-called hypertension, will have the opportunity to become gainfully employed. Present concepts of hypertension, as related to Workmen's Compensation, will have to be revised. In the military field a number of rejects may be considered fit for service when the new criteria are used; this will allow better utilization of our manpower.

¹ A. M. Master et al., New York, in *Bul. N. Y. Acad. of Med.*, July.

What a pity that those who decide questions medical chose, at an illhour for all who come after them, to say "normal" instead of healthy, "abnormal" instead of diseased!

Abnormal means nothing more nor less than against the rule. A person whose eyes are, the one brown and the other blue, is one of the most abnormal of humans; but not the most fanatical champion of normality would undertake to tattoo the blue eye brown, or the brown eye blue.

COMBINATIONS OF ANTIBIOTICS IN THE TREATMENT OF INFECTIOUS DISEASES

FROM a Mayo Clinic doctor¹ comes valuable instruction in how to use antibiotics for best results.

A definite synergism between penicillin and dihydrostreptomycin has been established. The reason for this synergism is still in question.

There appears to be an antagonistic effect between penicillin and aureomycin or chloramphenicol. In other words, penicillin is more effective alone than in combination with either aureomycin or chloramphenicol.

Certain bacteria made resistant to aureomycin, to terramycin and to chloramphenicol showed an increased resistance to all three of these antibiotics, but not to dihydrostreptomycin. Bacteria made resistant to dihydrostreptomycin did not show an increased resistance to the other three antibiotics.

These findings are consistent with the fact that combinations of aureomycin and dihydrostreptomycin are effective in the treatment of brucellosis. These facts suggest that combinations of aureomycin or terramycin with dihydrostreptomycin would be effective in the treatment of peritonitis, meningitis and bacteremia when the organism causing these infections is unknown.

A combination of aureomycin and dihydrostreptomycin represents the treatment of choice in brucellosis.

The recommended treatment in subacute bacterial endocarditis due to enterococci consists of a combination of penicillin and dihydrostreptomycin. This combination is also preferable when the etiologic agent is unknown.

1. W. E. Wellman, Rochester, in *Minn. Med.*, June.

TRAVEL BY RAIL ONLY 6% AS DANGEROUS TO LIFE AS TRAVEL BY SCHEDULED AIRPLANE

According to figures supplied by National Safety Council, Chicago, passenger deaths in 1949 per 100,000,000 miles were:

In passenger automobiles and taxis.....	2.0
In buses	0.20
In railroad passenger trains	0.08
In air transport planes (scheduled).....	1.3

NEWS

POLIOMYELITIS INSTITUTE HELD AT MERCY HOSPITAL, CHARLOTTE

July 18th

Introduction: Mr. Frank Phillips, State Chairman, National Foundation for Infantile Paralysis.

Public Health Aspects of Poliomyelitis: Dr. M. B. Bethel, City Health Officer.

Medical Care During Acute Stages: Dr. William H. Hall, Pediatrician.

Film: "Nursing Care in Poliomyelitis," sound, color.

Care During Convalescent and Reconstructive Surgery: Dr. George Miller, Miller Orthopedic Clinic, Staff, North Carolina Orthopedic Hospital, Gastonia, N. C.

Patient Care in Respirator: Miss Anita Searl, Joint Orthopedic Nursing Advisory Service, New York.

July 19th

General Nursing Care, Isolation, Preparation of Bed, Bed Positions and Handling of Patients: Miss Searl.

Film: "Teaching Crutch Walking."

Role of Physical Therapist: Miss Mary Singleton, Chief of Orthopedic Physical Therapy Service, Duke University Hospital.

Tracheotomy, Laryngoscopy and Bronchoscopy: Dr. V. K. Hart, Charlotte Eye, Ear and Throat Hospital.

Nursing Care of Bulbar Patient (including tracheotomy care): Miss Searl.

Open Discussion.

DUKE MEDICAL SCHOOL

Dean W. C. Davison announces that all 76 of Duke's first-year medical students have successfully completed their work and moved into the sophomore class. Through the years an average of from two to six students have failed the first-year work.

This is the first time in the history of the medical school that the entire class was advanced.

"It indicates," says Dr. Davison, "the splendid work the admissions committee has done in selecting candidates for the medical course."

Dr. Clarence E. Gardner, Jr., Professor of Surgery, has been elected to the examining board of the American Board of Surgery. Membership on the board is limited to 13 surgeons in the United States. Dr. Gardner will serve for six years. The board was organized in 1937 to improve post-graduate training for surgeons and to examine and issue certificates of qualification to doctors meeting the requirements to practice surgery. Dr. Gardner is the representative from the Southern Surgical Association. Other members represent the American Surgical Association, American Medical Association, American College of Surgeons, Western and Pacific Surgical Associations, and New England Surgical Society.

MEDICAL COLLEGE OF VIRGINIA

Dr. Alton D. Brashear, Associate Professor of Anatomy, will take office as the Supreme Secretary-Treasurer of Phi Beta Pi Medical Fraternity on July 1st, succeeding Dr. E. J. Van Liere, dean of the School of Medicine of the University of West Virginia. The central office of the fraternity is moving from Morgantown, West Virginia, to Richmond the second week in July and will be located in the War Memorial Building of the Alumni Association, 1105 East Clay Street.

Dr. William R. Bond, a graduate in medicine in 1928, and special lecturer in physiology in the College, and, from 1929 to 1934, Professor of Physiology and Associate Pro-

essor of Pharmacology, has been appointed director of clinical research for the A. H. Robins Co., Richmond, Va. Dr. Bond was engaged in medical research for the Schering Corp. from 1938 to 1946. More recently he has served as medical director for Charles C. Haskell & Co.

CARTERET COUNTY MEDICAL SOCIETY

The regular monthly meeting was held July 9th at the Morehead City Hospital. This a dinner meeting, the hospital acting as host.

The speaker was Dr. A. D. Brasher, Professor of Anatomy, Medical College of Virginia, Richmond; his subject the "Anatomical Relationship of Pain."

The Secretary, Dr. M. B. Morey, Morehead City, made a progress report on the coming postgraduate course by the Extension Department, University of N. C., to be held in New Bern in the fall. This course will be under the sponsorship of the Craven County and the Carteret County Medical Societies.

Dr. N. Thomas Ennett, Carteret County Health Officer, informed the Society of the probability of the Health Department abandoning all vaccinations should the county have an outbreak of polio. He stated, however, that no cases of polio had been reported in Carteret County this year.

—N. THOMAS ENNETT, M.D., *Cor. Sec.*

ACADEMY OF MEDICINE TO NEW HOME

Construction of the \$235,000 Academy of Medicine Library has begun and the building is expected to be completed by the summer of 1952, according to the chairman of the Board of Trustees of The Academy of Medicine of Toledo and Lucas County, Ohio. The one-story, fireproof structure will house, in addition to the library reading room and its stacks, offices and storage space, executive offices of the Academy, conference rooms, an auditorium seating 250 persons for Academy meetings and medical seminars, the telephone service bureau and a lounge.

The building will include 12,000 square feet of floor space, and will make use of radiant panel heating throughout. The new library will have space immediately available for 17,000 volumes (present content 7,000) and an ultimate capacity of 35,000 volumes.

The telephone service bureau, a three-position switchboard which has provision for a fourth position, is expected to be of vital importance to Toledo's civil defense organization in the event of an emergency. It will be the nerve center through which medical assistance is located and dispatched.

DR. JULIAN E. JACOBS, a member of Dr. O. L. Miller's Orthopedic Clinic, Charlotte, has been appointed a lecturer in orthopedics at Duke Hospital and the School of Medicine. Dr. Jacobs took his orthopedic training at Duke and was resident at Duke Hospital in 1937-38. He was orthopedist for the 65th General Hospital formed at Duke during World War II and just recently was elected to the American Orthopedic Association, a national group limited to 150 members.

DR. A. T. MOORE, of Columbia, S. C., recently spent some time in doing additional work on his new replacement of the femoral head. He recently went to Boston as Chairman of the Scientific Awards Committee to confer with the Executive Committee of the American College of Surgeons. Dr. Moore's listing in the new edition of *Who's Who in America* is a source of gratification to his many friends and admirers.

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Sodium Salicylate, U. S. P. Powder.....	40 grains
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Caffeine, U. S. P.	4 grains

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BOOKS

DISEASES IN OLD AGE: A Clinical and Pathological Study of 7941 Individuals Over 61 Years of Age, by ROBERT T. MONROE, M.D. From the Medical Clinic of the Peter Bent Brigham Hospital and Department of Medicine, Harvard Medical School, Boston. *Harvard University Press*, Cambridge 38, Mass. 1951. \$5.00.

The greater part of this book is a clinical, pathologic and therapeutic survey of all patients past 61, on the medical service of Peter Bent Brigham Hospital from March, 1913, to March, 1943 (nearly 8000). Such a survey made under highly favorable conditions could not fail to discover much to advance our knowledge of the elderly, their disease conditions, and the best management of these patients. The final chapter, The Community Resources Essential for Old People, is a fitting conclusion of a book of great value.

PROCEEDINGS OF THE SECOND CLINICAL ACTH CONFERENCE: JOHN R. MOTE, M.D., Editor. *The Blakiston Company*, 1012 Walnut St., Philadelphia 5. 1951. Volume I—RESEARCH, \$8.50; Volume II—THERAPEUTICS, \$8.50.

It is probable that ACTH is more nearly deserving of being called a miracle remedy than any ever produced. Every physician, every intelligent individual, is tremendously interested in what ACTH will do and what it can be reasonably hoped to do.

Volume I gives a detailed dependable account of the researches which have been carried out on the more fundamental aspects of ACTH and adrenal cortical function as well as the effects on different tissue systems under varied physiologic and metabolic conditions.

Volume II, "The Therapeutic Volume," is made up of papers describing the effects of ACTH in the treatment of various syndromes principally, with enough of a fundamental character to make the modus operandi understandable. There are 53 elaborate articles dealing with the principles of therapeutic activity of this agent and with its action in various medical and surgical disease entities. Each of these articles is contributed by one or more authorities on this complicated and vitally important subject.

ESSENTIALS OF OPHTHALMOLOGY. ROLAND I. PRITIKIN, M.D., F.A.C.S., F.I.C.S., Eye Surgeon Rockford Memorial Hospital, Winnebago County and Swedish-American Hospitals, Consulting Ophthalmologist, St. Anthony Hospital, Rockford, Ill. 215 illustrations, including 18 subjects in colors. *J. B. Lippincott Company*, East Washington Square, Philadelphia 5, Pa. 1950. \$7.50.

It is evident that the author carefully planned this book and chose for inclusion all the matters essential for the physician who wishes to take care of the great majority of his own eye work. It is

also evident that the author has much greater teaching ability than has the general run of writers of medical books of today. The book should have wide welcome and daily use by practitioners.

FROM A DOCTOR'S HEART, by EUGENE F. SNYDER, M.D., with a foreword by PAUL DUDLEY WHITE, M.D. *Philosophical Library*, 15 East 40th St., New York 16, N. Y. 1951. \$8.75.

Dr. Paul Dudley White says that the lesson of this book is two-fold: first, that of bettering human relationships; and second, that of a search for possible clues and prophylactic measures against the hazard of coronary heart disease.

Among the chapter heads are: a bolt from the blue, the heart of the heart, body and mind, high blood pressure, nervous heart, born for the fifth time, and living with a damaged heart.

Unless you happen to be one of the many who are decidedly averse to reading any kind of autobiography, you may find this book entertaining and instructive.

CLINICAL PEDIATRIC UROLOGY, by MEREDITH CAMPBELL, M.S., M.D., F.A.C.S., Professor of Urology, New York University Post-Graduate Medical School. With a Section on Nephritis and Allied Diseases in Infancy and Childhood, by ELVIRA GOETTSCH, A.B., M.D., and JOHN D. LYTLE, A.B., M.D. 1113 pages with 543 figures. *W. B. Saunders Company*, Philadelphia and London, 1951. \$15.00.

The author tells us that space has been allocated for the discussion of various topics according to an estimate of the incidence and importance of the particular condition; with some deviation from this rule as to some rare conditions because of their high fatality rate. Surely this is commendable practice. The work is largely based on the author's individual experience in teaching clinics and in private practice. The autopsy studies reported are abstracts from nearly 50,000 autopsies on patients of all ages, 16,000 of them being infants and children.

The first 100 pages are devoted to a description of methods of examination and diagnosis. The embryology and anomalies of the urogenital tract, being covered in one chapter and running concurrently, make an excellent exposition of this important feature of practice. Obstruction, infections, injuries, tumors and calculous disease all are given elaborate consideration. The troublesome condition, enuresis, is hopefully dealt with. More than a hundred pages are devoted to description of operative procedures.

There are two excellent chapters, one on The Adrenals, the other on Nephritis and Allied Diseases in Infancy and Childhood, which will occasion the surprise of some at their appearance in a book designated, Urology.

DIED

Captain Omar Jesse Brown, 48, staff medical officer of the Fleet Marine Force, Atlantic, and an authority on tropical medicine, died July 7th. He fractured his back in a fall down a flight of stairs at his home at Norfolk, Va., on June 10th, was taken to Georgetown Hospital, Washington, where he died from complications resulting from the fall.

Captain Brown was in charge of the Navy's Epidemic Disease Control Board from 1943 to 1945. He did similar work in the Pacific during the war. He was commended by the Secretary of the Navy for reducing the number of malaria cases at North Carolina installations during the early years of the war.

HOW RICKETS GOT ITS NAME

(G. O. Mitchell, in *British Med. Jour.*, May 26)

A note by that garrulous antiquary John Aubrey, which was first brought to light by Oliver Lawson Dick in his edition of the *Brief Lives*, 1949: "I will whilst 'tis on my mind insert this Remarque, viz.—about 1620 one Ricketts of Newberrye, a Practitioner in Physick, was excellent at the Curing Children with swoln heads, and small legges: and the Disease being new, and without a name, He being so famous for the cure of it, they called the Disease the Ricketts; as the King's Evil from the King's curing of it with his Touch; and now 'tis good sport to see how they vex their Lexicons, and fetch it from the Greek Rhachis, 'the back bone.'

SOME MEDICAL FALLACIES

(J. E. Johnson, M.D., Austin, Tex., in *Medical Times*, June)

That albuminuria always means nephritis.

That all psychoses mean hopeless insanity.

That all pulmonary calcifications are due to tuberculosi-

That retroversion of the uterus interferes with conception and that it may be the cause of various pelvic complaints that can be cured by surgical suspension.

That "floating kidney" or "dropped stomach" require either surgical suspension or bed rest with feet elevated for flattening treatment.

That "medical drainage" of the gallbladder with a tube is an effective treatment for diseases of that organ.

That thyroid extract should be given to every patient with a low BMR.

That HCl should be given to correct an acidity of the stomach.

That pyorrhœal alveolaris is a contagious disease.

That impacted wisdom teeth should be dug out of the mandible and removed to cure various disorders.

That iron and liver extract should be given together for anemias.

That colitis, arthritis, and neuritis are caused by focal infection.

That heart disease, rheumatism, nephritis, etc., may be prevented by tonsillectomy.

Disease organisms can enter the body through respiratory tract, skin, or gastrointestinal system, as well as through wounds, and other portals. Surgical removal of tonsils, abscessed teeth, or other disposable or expendable organs or processes, offers very little or very limited protection against disease. The most reliable statistics show that the tendency to rheumatism, nephritis, heart disease, arthritis, colitis, or neuritis is not reduced by tonsillectomy.

Rheumatic fever can be largely prevented by control of throat, nasal, or sinus infections with certain strains of streptococcus and related organisms—tonsils in or out, notwithstanding.

CHUCKLES

Anticipatory

Every morning the car used to stop outside the fence of the state asylum. Inside one of the inmates would be going through elaborate wind-up and pitching motions, using an imaginary ball. After studying him for a while the driver of the car, a well dressed businessman, would leave. After a few days of this the gatekeeper asked him, "Pardon me, sir, but why do you come here each day and study that poor fellow?"

"Well," came the answer, "if things continue the way they are in my business, I'll be in there some day catching for that fellow, and I want to get on to his curves."

Only Contributing Cause

"Po ol' Joe. Think o' him dyin' o' lumbago."

"Joe had lumbago, but he didn' die o' it."

"Well, wot—?"

"De rubbed 'is back wid alco'ol, see?"

"An' it poisoned 'im?"

"Nothin' o' de sort. 'E tried to lick it off an'—broke 'is fool neck."

How Much to Redeem Wife?

\$1800 buys 15 acres, horse, young cow just fresh, 75 chickens, acre garden, bearing orchards, tools, 51 room house, barn and hen house, wife in hospital. \$1800 takes all.

Girl No Unerstan Du English

After a prolonged and repeated examination: "Madam," said the ophthalmologist, "there is nothing the matter with your eyes. Why did you come to me?" "Well, doctor, I told the girl at the desk, but she wouldn't listen to me: I haven't seen anything for two months."

Samuel F. B. Morse was a portrait painter before he invented telegraphy. One of his paintings depicting a man in death agony, he asked a physician friend to examine it: "Well?" Morse inquired after the doctor had scrutinized the picture. "What's your opinion?"

The physician removed his spectacles, turned to Morse and commented: "Malaria!"

ANTOINE MESMER (1733-1815) studied medicine in Vienna and in his doctoral dissertation supported the concept of the influence of the planets on physiological and pathological phenomena. He is the author of the doctrine of animal magnetism. He acquired great wealth in Paris, despite the opposition of the physicians, losing everything in the French Revolution. Still the subject of controversy, his ideas have produced both suggestion and hypnotism.

JOHN MAPLET, in 1567, wrote a book, "A Greene Forest, or a Natural Historie, Wherein may be scene first the most suferaigne Vertues in all the whole kinde of Stones & Mettals: next of Plants, as of Herbes, Trees & Shrubs, I lastly of Brute Beastes, Foules, Fishes, creeping worms, and Serpents."

Maplet recommends most of his Herbes to be taken in wine, which would seem to make palatable medicine. And Okeferne "being rost in the Carcasse of an Hen saith Avicen, remedie the grieve of the guttes."

MRS. SARAH MAPP (?-1737) was a famous "female bone settler" and plied her trade with great gusto, despite complete ignorance of anatomy. She was well enough known to be satirized by Hogarth.

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JAMES M. NORWICH, M.D., Editor

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Indications for Cholecystectomy

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From the Department of Surgery, Spartanburg General Hospital, and the Wallace Foundation

ERRORS in the management of patients have occurred in the past because of faulty interpretation of cholecystograms. The decision in regard to surgery is usually definite when stones are visualized. When the gallbladder fills and concentrates the dye and no stones are visualized, surgery is ruled out. Most errors have been made when x-ray study revealed non-filling of the gallbladder and no opaque stones were present.

When such a report is obtained, the case should be carefully reevaluated clinically. With proper interpretation and exclusion, non-filling of the gallbladder means obstruction of the cystic duct, usually by stone, and requires cholecystectomy. The decision rests on the clinical picture of acute or chronic cholecystitis plus a non-filling gallbladder on cholecystogram.

Other causes of non-visualization are carefully eliminated. The administration of the tablets is reviewed, and vomiting of the tablets is ruled out. Any condition which would interfere with the absorption such as pyloric obstruction or excessive diarrhea should be ruled out. Liver disease which would impair the concentration of the dye in the bile should be ruled out. If jaundice is present either of hepatic origin or common duct obstruction

type, no filling of the gallbladder with a demonstrable amount of dye would be expected.

It has been stated that the demonstration of stones in the gallbladder requires cholecystectomy. The removal of a gallbladder containing stones is advisable to prevent the development of complications such as cholangitis, obstruction of the common duct, secondary liver damage and pancreatitis.¹ The important thing for the patient is the relief of his symptoms. No appreciable or long-lasting relief of symptoms can be obtained without cholecystectomy.² Another consideration is that one per cent of patients with cholelithiasis will develop carcinoma of the gallbladder.³ The converse of this principle also holds true. If the gallbladder fills and no stones are demonstrated, no surgery should be done. Most important, this eliminates the likelihood of cholecystectomy being done, on an erroneous diagnosis. It also eliminates cholecystectomy for biliary dyskinesia. When no stones are present, the gallbladder should not be removed because of spasm in the sphincter of Oddi. It not only does no good but may make symptoms worse by eliminating the distensible portion of the biliary tree.

A review of 100 consecutive cholecystectomies reveals that in 95 cases stones were present. The exceptions will be discussed later. The result was good in all instances except two of the cases with no stones. There was no mortality. In the patients that were investigated during that period and sur-

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gery not done, no patients with overlooked gallstones have come to our attention.

Recapitulation of the preceding discussion suggests certain clinical principles:

1. *Cholelithiasis requires cholecystectomy.*
2. *If no stones are present and the gallbladder is not completely obstructed, cholecystectomy should not be done.*
3. *With proper interpretation and exclusion, non-filling of the gallbladder means obstruction of the cystic duct, in over 90 per cent by stone, and requires cholecystectomy.*

To these major premises already discussed, certain others should be added.

4. *Gallstones are of metabolic origin, sometimes associated with stasis.* Chronic cholecystitis is the change in the wall of the gallbladder that develops secondarily to stones. Infection is not a factor in the development of stones.¹

5. *Acute cholecystitis is due to complete and persisting obstruction of the cystic duct.* As the intraluminal pressure rises, secondary changes occur in the wall of the gallbladder. When the intraluminal tension rises above the local venous pressure, necrosis of the gallbladder mucosa occurs, resulting in *gangrene of the gallbladder.* Necrosis of the wall may also result from obstruction of the cystic vessels by stone or by thrombosis due to secondary inflammation. *Perforation of the gallbladder* may be the next step in the process, or it may occur as the result of erosion by a large stone (pressure necrosis). The area of perforation is usually walled off, and a pericholecystic abscess develops. Free perforation is rare, being present in only 0.2 per cent of operations on the biliary tract.⁴ Cholecystectomy is indicated in all of the conditions mentioned in this group. Rarely cholecystostomy must be resorted to because of the extremely poor general condition of the patient. This should be followed in three months by cholecystectomy unless the condition of the patient precludes further surgery.^{1,4}

Exceptions:

The clinical principles are correct in over 90 per cent of the cases, and observance of them will give good results. In order to carry out the proper procedure in all cases, the exceptions should be considered.

1. In one case cholecystogram revealed no stones or obstruction, but attacks of biliary colic persisted in spite of a good medical regimen. Three cholecystograms were normal. At cholecystectomy *small stones were found which had not been visualized on x-ray examination*, even though the gallbladder had filled. In another case gallstones were found at the repair of a diaphragmatic hernia. A previous cholecystogram had been negative.

2. In one case in which the cholecystogram revealed only an impaired concentrating power,

cholecystectomy was done because of persisting biliary symptoms after all other possible causes had been carefully excluded. A typical strawberry gallbladder was found (*cholesterolosis*).

3. In one case, which was characterized by intermittent episodes of biliary colic and palpability of the gallbladder, two cholecystograms had been normal; and at cholecystectomy *the cystic duct was found to be congenitally stenosed.*

Since the mortality rate greatly influences the indications, the factors leading to a low mortality rate (none in this series) may be listed.

1. Correct diagnosis and evaluation of the general health of the patient.

2. Good anesthesia is essential. Most of the advances in anesthesia are the work of medical anesthetists.

3. Safe techniques.¹

4. Reduction in the incidence of respiratory complications.⁵ An additional aid is the use of intercostal nerve blocks with benzocaine in oil for reduction of postoperative pain on coughing.

5. The use of transverse incisions.⁶ (Drains are brought out through a stab wound.)

6. An additional aid in exposure is the use of the Wolfson retractor and the method of packing introduced by one of us (W. F. U.).

SUMMARY

Certain clinical principles that serve as a guide in recommending cholecystectomy are presented and discussed. One hundred consecutive cases in which these principles were developed and used are reviewed. There was no mortality, and the post-operative results were good.

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A SENTENCE OF JOHN LOCKE'S in a letter to Wm. Molyneux, sums up the practical side of Sydenham's teaching: "You cannot imagine how far a little observation carefully made by a man not tied up to the four humours (Galen), or sal. sulphur & mercury (Paracelsus), or to acid and alkal (Sylvius & Willis) which has of late prevailed, will carry a man in the curing of diseases though very stubborn, & dangerous; and that with very little and common things, and almost no medicine at all."

Psychosomatic Medicine: Some Common Misconceptions

JOHN F. WILLIAMS, M.D., Richmond, Virginia

DISABLING illness without demonstrable organic cause has been an irksome problem to physicians for twenty-five centuries. Emotions produce bodily change and long-continued emotional stress may produce changes which are irreversible. Psychosomatic medicine is the simultaneous study and treatment of the mutual interrelation of psychological and somatic factors. Recent emphasis on study of neurotic illness having somatic components (psychosomatic illness) has led to an oversimplification of an intricate problem.

Traditionally mental illness has been linked with demonology. The torch and the whip are remembered as psychotherapeutic agents of the Middle Ages. Today some professional and lay concepts of the neuroses still retain remnants of these beliefs.

A major misconception regarding the neurotic patient is that he is a self-indulgent, undisciplined and rather foolish person who enjoys all manner of imaginary illnesses. His frequent change of physicians is usually preceded by warnings and alarms as one colleague tells the other of his approach. Once stamped as a neurotic he is indelibly marked. He is received with impatience—often with contempt. General hospitals seldom have a bed for him. He is as a pariah of medicine.

A neurosis is an illness. For this disease there is no Engineer's Handbook giving tables of stress for the pressures of the environment upon the total personality. To those who claim that neurotic illness is an evidence of weakness, I suggest that they tell it to the Marines—in particular those Marines who broke finally under battle strain at Guadalcanal.

Professional journals and popular magazines have stressed the part that the family doctor can play in psychiatry. Many sincere and kindly physicians will probably treat the neurotic patient. Following a repetition of the time-honored workup, the patient is told that all tests are negative—that there is nothing the matter with him—"the trouble is all in your mind." Frequently he is comforted by "stop worrying about yourself or you'll go crazy." Perhaps explanation of the cause of a neurosis with somatic manifestations—psychosomatic illness—is attempted. Contrary to the popular literature this is not always successful. The physician becomes impatient, even irritated, and the patient acquires

another layer of anxiety. Both, then, may fall back to more familiar ground—a search for some undiscovered organic disease "that is at the bottom of the whole thing." And so another familiar cycle is begun.

It is possible, but not probable, that removal of a gallbladder might be done by an operator without rudimentary knowledge of anatomy and surgical technic—and the patient recover. But it would be better, before attempting to treat the neuroses, for the physician to learn something of the anatomy of the personality and of the technic of treating disease of the personality.

Few of us here, for obvious reasons, would attempt removal of a lung or to perform an involved operation upon the mastoid cells. Many physicians, however, will not hesitate to diagnose and treat emotional illness. Such therapy may not be helpful—it may be disabling and it can cause death.

But there are, happily, family physicians of unusual skill in understanding the neurotic patient. Many neuroses have their origins in infancy and childhood. Much time is needed to treat such illness. Assuming his willingness and skill, can the family physician give enough time to these patients? Let us suppose the doctor can see ten patients in his office in one hour. Will he be willing to see one patient for one hour—and for his usual fee?

Increasing awareness of the importance of emotional factors in morbidity has brought about attempts to provide more treatment. Certain "counselling" centers are coming more and more into existence. These are staffed, for the most part, by nonmedical persons. While one may not doubt the sincerity of these people, or their praiseworthy efforts to relieve the great patient load, the medical soundness of this plan is questionable. As analogous—does the laboratory technician treat the patient? does the nurse make the examination?

Due, perhaps, to the influence of the past, some patients are being referred to their pastors for help. Although the comforts of religion with the concept of acceptance are undoubtedly beneficial to many, the minister's particular kind of training and belief does not qualify him as a psychotherapist.

We are living in a stressful time—perhaps on the verge of a holocaust. Emotional turbulence is great, and it is increasing at a fearful rate. We

have a great job to do. No longer can we attempt to separate body and mind. Every illness has its psychic components and therefore, in the larger sense, all medicine is psychosomatic medicine. Our need for understanding of neurotic illness has never been so great. Only by strong efforts to integrate all medicine can we meet this need.

PSYCHIATRIC CASES IN GENERAL PRACTICE

J. G. M. Carsairs, M.D., in *Edinburgh Med. Jour.*, Feb.

A SCOTSMAN¹ has something valuable to say about mental disease outside the institution.

The clues to the understanding of the emotional factors in a case may be very elusive: one may suspect that they are there, but it is sometimes only after many interviews that the patient suddenly reveals them, either voluntarily or involuntarily. Too often these patients spend many months being scrutinized and x-rayed, and it may be operated upon by one after another of the specialties in physical medicine, when the time might have been more profitably spent in a short series of diagnostic psychiatric interviews.

That the general practitioner's office is in many ways an ideal treatment center for neuroses will be realized with recognition of the practitioner's ability by his patients, by specialists and by other colleagues; and of his pride in his own professional skill, with which is linked the satisfaction of seeing his patients getting better.

A psychiatrist used a brief experience of general practice to make a random sample of the cases seen in the consulting room and in their homes, in order to estimate the incidence of complaints due in varying degree to psychological maladjustments. His finding that 13 per cent of all cases seen were predominantly functional is near the truth, as any doctor of experience in general practice, or in any specialty other than psychiatry, knows. The statements blantly put forth on this side of the Atlantic give the percentage as anywhere from 40 to 60 per cent. A Scotzman, even when he becomes a psychiatrist, retains his sound sense.

MOOD, ANGER AND SOMATIC DYSFUNCTION

J. D. Harris, M.D. (P.Y.), in *Jour. Nerv. & Ment. Dis.*, Feb.

Major attention is here focused on one symptom, the subjective feeling of poor health, with lesser attention to the symptoms of fatigability and headaches. The findings presented are based on single diagnostic interviews with 120 mothers, of ages 28-44, of children referred for some behavioral difficulty.

In the diagnostic interview with the mother after information had been obtained about the child, questions were asked related to (1) mother's usual mood, (2) her manner of handling anger, and (3) her state of general health.

Two-thirds of the women were usually cheerful, one-third usually depressed; half were occasionally angry, the remainder almost evenly divided between frequently and seldom angry; two-thirds usually released it, the remainder usually holding it in. Half of the women stated they were in good health, one-third poor, the remaining indefinite. Complaints included fatigability, headaches, backache, dysmenorrhea, shortness of breath, "heart trouble," asthma, high blood pressure—fatigability and headaches the most frequent. Some mothers who, claiming to be cheerful, admitted that they held in their infrequent angry feelings; some usually depressed, claimed that they usually released their frequent angry feelings.

Our observations corroborate present thinking. The concept of dammed-up internal tensions being discharged into the soma is now familiar and the relationship of such dis-

charges to fatigability and headaches has been described frequently. This report calls attention to the feeling of poor health and attempts to demonstrate how his feeling also arises from emotional disturbance.

The practical use of these observations in the diagnosis and treatment of disease depends on whether it is the psychiatrist or the internist who is dealing with the patient. While psychiatrists usually have available more refined methods of diagnosis and treatment, the internist, for want of time and experience, may find it helpful to view his patients along the lines indicated in this report.

Thus patients whose feelings of poor health have not disappeared after medical treatment might be asked about feelings of depression and their manner of handling anger. If such questioning reveals that a damming-up of tension is present, then perhaps simple psychotherapeutic measures can be utilized by the internist. In mildly depressed patients who lack external supplies of love, simple support and warmth (either from the physician or through environmental manipulation) may decrease the tension-producing unsatisfied needs. In patients who find it difficult to release anger, encouragement to ventilate their resentful feelings may prove beneficial. If these measures fail, either because of the complexity of the personality problems or of the physician's inexperience in psychotherapy, then the patient may be referred to a psychiatrist for more definitive treatment.

Editorial comment.—One may be permitted to wonder why no mention of the general practitioner. Some of the greatest neuropsychiatrists on the Atlantic coast say the GP is competent to deal with the vast majority of these ailments among his patients. Apparently this is not the opinion where A. M. A. officialdom lives, moves and has its being.

A BETTER WAY TO DEAL WITH SENILE PSYCHOTICS

J. H. A. Rusk, M.D., New York, in *Geriatrics*, May-June)

One of our most neglected groups in the chronic degenerative disease category of patients has been the senile psychotics. They have usually been placed in the almshouse or county institution with individuals of all ages and of normal mentality, or have been sent to state institutions for the insane with severely disturbed psychotics.

How a community can meet the needs of this particular group has been demonstrated in Vancouver, B. C., where a number of small, standardized, economically-built 100-bed units for their care have been placed in centers of population. The doctors in each community have assumed the medical responsibility, and mature, motherly practical nurses engaged for giving nursing care. Such units, strategically placed, allow the patient to maintain contact with his former environment and have visits with his old friends and family. Through such plans, optimum results may be obtained at minimum cost.

ABUSE OF LABORATORY PROCEDURES

(Ephraim Roseman, Louisville, in *Il. Ky. Med. Assn.*, July)

It is a truism in neurology that if one cannot make a satisfactory diagnosis from the history, the neurologic examination will usually only help to confuse the picture; and the laboratory work-up frequently adds to the chaos. Given an adequate history, an experienced clinician should be able to reach an exact anatomical diagnosis and a satisfactory prediction of the etiologic basis of the disease. Since, however, Medical Science seems to be rapidly approaching the stage of laboratory doldrums, it would appear that it behooves the clinician to at least familiarize himself with some of these tests. One of the most abused of these laboratory procedures is the study of the cerebrospinal fluid.

Psychological Factors in the Genesis and Management of Hypertension

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HYPERTENSION is one of the commonest disorders of civilized life and results in the greatest burden of cardiovascular disease. After it has run its course of several years to a decade or more, it results in certain vascular changes that, in turn, produce changes within vital organs and bring about disability and death. We do not know much about the disease, in spite of the epochal work of Goldblatt, and many others, regarding the disturbances of renal blood flow. This knowledge has not advanced us very far in our treatment of this disorder. On the contrary, it has hampered us in one respect because it has placed even more emphasis on the physical aspects of the disorder. For years we have studied patients with hypertension with the blood pressure apparatus, ophthalmoscope, fluoroscope and electrocardiograph, and by means of renal function studies; now we have added the intravenous urogram and, in certain clinics, more refined methods of studying renal blood flow. All of this is proper, but it is just the beginning; it is not the end of the study because patients with hypertension are usually anxious patients and their anxiety has some relation to their blood pressure.

We know that we must allow for the emotional element in individual blood pressure readings. It is also well known that rest and reassurance play a large part in the medical management of hypertensive patients, both in relief of symptoms and in reduction of the blood pressure level. The early symptoms of hypertension are frequently exactly those of a psychoneurosis (Ayman).¹ Emotional stress often seems to precede the onset of hypertension, and anxiety bears a close relationship to the aggravation of existing symptoms in hypertension. Cardiovascular accidents frequently follow emotional traumatic experiences. Personality study often reveals a deep-seated conflict that stands in close relationship to anxiety.

So, empirically, we have learned that there is some relation between emotions and high blood pressure; but what is it?

During the past three years my associates and I have been engaged in a study of unselected, consecutive patients encountered in a hypertension clinic. To the usual physical and laboratory studies are added a social history, psychological tests, and psychiatric interviews. Although the study is aimed at the relationship between personality and hypertension, a number of observations have been made

upon the emotional problems of hypertension, and some of these I wish to discuss.

It is obvious that these problems must be related to the pre-hypertensive personality and we have been impressed with the high incidence of emotional disorders existing in these patients prior to the development of their hypertension. Then emotionally disturbing events specific for the personality in question frequently act to precipitate symptoms that are attributed to the hypertension.

Headache—Janeway² observed that headache was the most frequent symptom of which his hypertensive patients complained. He described the typical hypertensive headache, which appears on awakening, as consisting of sensations ranging from a dull ache to severe pounding distress, usually located in the cervico-occipital region. In addition, he noted that a surprisingly large number of patients had been subject to migraine throughout life. Gardner, Mountain and Hines³ found migraine five times as frequently in hypertensive patients as in a control group. Then there are a great variety of head pains, discomforts, and peculiar sensations, such as dullness and fullness with or without vertigo, that occur in hypertensive subjects and are often referred to as headaches. The tendency is to attribute all these "headaches" to the hypertension.

It is so easy for a practicing physician to slap a blood pressure cuff on the arm of a patient and say, "It's your blood pressure;" it is so difficult to spend time with a patient trying to find out something about the emotional life. Once the diagnosis of "high blood pressure" has been established attention is concentrated on the effort to "bring the blood pressure down." The patient demands to know the blood pressure figures; on each visit to the physician he waits with anxious concern to hear the latest reading and frequently he has ideas of "stroke," "heart failure," or "Bright's disease" in the back of his mind.

It is hardly necessary to detail what has been done to this poor fellow in an effort to "bring his blood pressure down." There was a day when protein, especially red meat, was held responsible; then followed a period in which his diet was rendered even more unpalatable by the withdrawal of salt. (After a lapse of 25 years this salt-free era has been reestablished; only rice has been added. The palatability has not been enhanced by this addition.) Then came the period when an avid search

was made for "focal infection" and teeth and tonsils were sacrificed at a prodigious rate. Nor was the colon neglected in this search for "toxins," and "colonic irrigations" were very popular for a time. The patient is still often told to stop work and exercise, and of course is denied alcohol and tobacco as well as coffee and tea. Having been reduced to a vegetative existence the unfortunate hypertensive is now threatened with mutilation at the hands of the neurosurgeon who, during the last decade, has removed more and more of his sympathetic nervous system. All of this has gone on with hardly the slightest attention to the personality of the hypertensive individual and, of course, this concentration on "bringing the blood pressure down" has only added to the phobia of high blood pressure.

To return to the problem of hypertension and with all of its attendant secondary ills, headache, certainly elevation of the blood pressure seems responsible for the so-called typical hypertensive headache. (Even here, however, the anxiety factor enters insofar as it is related to exacerbations of blood pressure.) However, the vast majority of peculiar head sensations and discomforts often designated as headache cannot be correlated with the blood pressure level itself. Here the emotional factor is directly related to the peculiar head sensations.

For example: A middle-aged woman had severe hypertension and headaches. Her physician sent her because he thought the headache was due to hypertension. She had had all the studies that we have spoken of. The only thing she had not had was an opportunity to talk about herself as a person. After reviewing all these measurements, we said to her "sometimes tension is related to hypertension." She thought that over for a moment and said: "Well, I can improve on that formula. In my house, it is 'contention-tension-hypertension.'" And then she went on to tell of the role she played as a "buffer" between an irate husband and a lazy son who was in business with his father and there was constant quarreling between them. She was always trying to shield her son; and, martyr-like, had to pay the penalty. This woman's headache was the "body-language" means of representing her difficult life situation. It was just as if she would say: "My husband is a headache to me." Indeed he was. He was having an extramarital affair and boasted of it openly. He felt that it was indecent to smoke or drink, but the sexual appetites were normal and were to be indulged, and no secret was to be made of the fact. This added to her problem by humiliating her in the presence of her friends. This was an intolerable situation for her. Perhaps as a result of the way we received that information, uncritically, she gained enough confidence to present her husband with an ultimatum and, contrary to her worst expectations, he agreed to end the affair. It made a tremendous difference in her life. Thereafter, she was well as far as headache was concerned. It is true that this patient still has her hypertension. But the disappearance of the headache was an indication that the symptom was out of proportion to the disease, and was related to the anxiety. The anxiety in turn was related to conflict and the conflict could be brought out by getting to know the woman as a human being and not just as a medical case.

Migraine presents a more complicated mechanism. It can hardly be assumed, as in the case of anxiety and hypertension, that migraine is so frequent in hypertension because the two are common disorders and therefore must frequently meet. Instead, there seems to be a common denominator, and psychologic study gives a clue. Apparently there is an intimate relationship between the personality structure of the two disorders. Both present evidence of chronically repressed rage. Attacks of migraine occur when situations are met that intensify the rage without providing opportunity for adequate expression.

Wolff⁴ observed that the headache in subjects with hypertension bears no direct relationship to the level of blood pressure or pulse pressure. "The headache may be present when the blood pressure is relatively high, moderate, or low. By pressing the thumb upon the common carotid artery the intensity of the headache is reduced, with an accompanying decline in the amplitude of the pulsations. Decrease in the intensity of headache in the temporal region followed similar pressure upon the corresponding temporal artery. Furthermore, when ergotamine tartrate did succeed in appreciably decreasing the amplitude of pulsations of the cranial arteries for a shorter or longer period, the intensity of the 'hypertensive' headache decreased despite the fact that the ergotamine tartrate considerably increased the already elevated systolic and diastolic pressures. If little or no reduction of the amplitude of pulsation of the arteries occurred, there was no reduction in the intensity of the headache. Hence, headache with hypertension likewise is influenced by agents that decrease the amplitude of pulsations of the cranial arteries."

Constipation—Most patients with hypertension see a connection between headache and bowel function. When they suffer from constipation they are ill, and when the bowel movements are free they are speedily relieved of symptoms. This, of course, is true for many patients who do not have hypertension, but in hypertensive individuals the relationship is especially obvious. Moreover, it is a relationship that is easily exploited and in which the physician becomes a pathogenic agent when he focuses attention on the bowel, as in the days, fortunately not now so common, when colonic irrigations were frequently prescribed for "auto intoxication."

A technique, frequently used by physicians who try not to alarm their patients regarding the blood pressure, is to have a topic ready that will engage the interest of the patient at the moment that the blood pressure estimation is completed, when the patient usually is eager to know the result. Many physicians have found that the best way to deflect this interest, especially in women, is to ask a ques-

tion concerning the bowel function. The patients then become so interested in discussing this topic that they forget, for the time being, their concern about the blood pressure reading.

It is very difficult to overcome a patient's prejudices—even those of the medical profession—in this regard. But attributing the headache to the constipation does seem to be largely a psychological association, because relief comes too quickly after a bowel movement to be ascribed to physical causes, and, in addition, deeper psychologic study often shows the relationship between ideas of obstruction, "poisoning," and pain in the head.

Vertigo—Patients frequently refer to the symptom of vertigo, which occurs in a great many instances with the head discomforts just described, as dizziness and giddiness. Differentiating syncope, which does not imply a disturbance of equilibrium, and true Meniere's syndrome, one often finds that the symptom of vertigo bears a definite relation to an anxiety state. Frequently, in association with ringing in the ears, and sometimes with numbness and tingling of the extremities, it is the result of psychic stress.

The early symptoms of anxiety are usually expressed through the cardiovascular, respiratory, gastrointestinal, and genito-urinary systems. It is after the anxiety state has persisted for some time that the symptom of vertigo makes its appearance. When it occurs in association with hypertension the vascular disease often is held to be responsible. However, it is well to bear in mind that, like organ language elsewhere, vertigo (unsteadiness) frequently is the symbolic representation of insecurity and indecision, and this is just as true when it occurs in association with hypertension.

A woman of 55 with a moderate elevation of blood pressure and pronounced symptoms of cardiac neurosis recently suffered an attack of severe vertigo. She was thoroughly studied at the hospital and no evidence of organic disease other than moderate elevation of blood pressure was found. The study included a complete neurological survey.

As one of us was leaving her room after the last interview, she said, "You have much to live for (meaning the profession of medicine) while I have nothing." This sentence seemed to have more bearing on the vertigo than all we had learned from our physical examinations.

She had always aspired to a career in medicine, encouraged by a dominating mother who directed her own ambitions to the daughter. Instead she married a man whom she idealized as a perfect person "not primarily interested in woman as a sexual object," only to find that he made constant sexual demands. She never attained sexual gratification but had five children in rapid succession. She devoted herself to her children, now grown, and following the death of her mother from heart disease, she developed a mild depressive reaction from which she had not recovered. The discovery of the hypertension permitted her to focus her anxiety upon her heart and the fear of death from a "stroke."

With psychotherapy she was able to recognize and express the hostility against her husband, but she had more

difficulty with her guilt-laden death wishes against her mother. It was with great difficulty that she was able to see her mother's domination and her own need for her mother's love, which had determined her pattern for submission, the development of unconscious wishes for her mother's death to relieve herself of this burden, and the ensuing guilt, which increased her own need to act the dutiful daughter. Then, from this identification she punished herself with her mother's symptoms of heart disease, especially after anything that she considered self-indulgence or ostentation. After the heart "pain" there was a secondary depression associated with her feelings of helplessness and inadequacy.

During the course of treatment her depression diminished and she was able to engage in more activities, such as joining a class in music appreciation, from which she derived great pleasure. The atmosphere at home improved. Then, on her own accord, she suggested diminishing the frequency of her visits to the psychiatrist and immediately after this had the attack of severe vertigo that resulted in the hospital study. We thought of the symptom as representing symbolically her fear that she might not be able to maintain her balance without supportive therapy, but perhaps on a deeper level it had to do with fear of "falling" in a sexual sense. Certainly unconscious depreciation of femininity colored her whole life as a disappointment that could not be fulfilled. The substitution was to have children and be a perfect mother, but with her children grown and no longer needing her care, the illness was precipitated by the death of the mother with whom she was strongly identified. When she no longer had the gratification of motherhood, the pains in the chest acted as a constant reminder of her inadequacy. They meant, "I can never hope to attain the goal that mother wanted for me," and a life of leisure and self-indulgence only added to her woes.

Cardiac Neurosis.—Pain in the precordium, palpitation, dyspnea, and fatigue are a group of symptoms frequently associated with the cardiac neurosis that occurs in patients with hypertension. Fatigue may be a prominent part of the clinical picture, in fact, the most prominent symptom, although again and again the patient speaks of pain in the heart region, and only after considerable discussion is it brought out that really the most important symptom is fatigue, that it occurred first, and that only later was the pain added. One of the commonest causes of fatigue is emotional conflict, which steals energy that then is not available for useful purposes.

When these symptoms are present with a normal cardiovascular system and the general medical examination otherwise is negative, it is not as a rule difficult to assign them to their proper sphere—the emotions. When hypertension is present, however, it is almost invariably held to be the responsible factor. It is under such circumstances that psychosomatic study will frequently reveal that symptoms are out of proportion to disease, that there is much conflict in the personality make-up, and that it depends on repressed hostility. Moreover, a specific as well as a temporal relationship will be found between the onset of the symptoms and a psychic event.

Thus in regard to symptoms in association with hypertension one must always question their relation to the high blood pressure itself, and make an effort to understand them from the viewpoint of behavior.

When pain in the chest is associated with hypertension in a middle-aged individual, and especially in the presence of physical evidence of cardiovascular disease, the problem becomes a very difficult one from the standpoint of management. It is all very well to advise a young person with moderate elevation of blood pressure and no evidence of cardiovascular disease to "carry on in spite of symptoms," and encourage him to do the things that other people do. But in the presence of electrocardiographic evidence or other indications of myocardial disease, one assumes a heavy responsibility in encouraging such patients to carry on, and yet to caution rest on the one hand, and try to give reassurance on the other, is so often worse than useless.

To the young physician treating such a patient, and to the psychiatrist as well, it poses a difficult problem; the sudden death that may occur in patients who have been encouraged to carry on may bring the criticism of the community down upon the head of the unfortunate practitioner. And yet to play into their unconscious fears by cautioning rest and more rest leads to greater and greater degrees of invalidism. Moreover, as the patient waits for his arteries to harden, the questionable benefit of the physical rest is more than offset by the physiologic burden laid on by psychic stress. The only advice that we can offer in this regard is that the patient be evaluated as carefully as possible, both physically and psychologically, and then an effort made to advise him correctly regarding his activities. Tension of emotional origin is just as burdensome to the cardiovascular system as is physical effort (Wolf and Wolff).⁵

PSYCHOSOMATIC ASPECTS OF TREATMENT

The knowledge that "every psychic tendency seeks adequate bodily expression" gives a practical hint in dealing with hypertensive patients. An explanation to the effect that inner tension which cannot be released through ordinary channels (action or words) may manifest itself in the circulatory system by adding to the problem of hypertension represents a rational approach insofar as the patient is concerned. This often leads to a discussion of problems that are of considerable interest and importance from the standpoint of illness.

The psychosomatic concept of pathogenesis and the clinical picture must impress us with the necessity for the total evaluation of the patient with hypertension. This requires more than lip-service to the concept of the organism as a whole. It represents a combined physical and psychologic study.

Because incapacity often is out of proportion to the disease, it will be found important in a great many cases to reeducate these patients along the lines of "carrying on" rather than to urge rest and more rest. We must free them from the phobia of their blood pressure, with its attendant fears of "stroke" and heart failure, and allow them to express their aggression along more nearly normal channels.

One may say to patients who have hypertension and anxiety (due to the meeting of inner conflicts and external pressures) that our objective in their management is to "take off some of the load." If we can do this by helping them to achieve some insight into their emotional problems, with consequent lowering of tension, well and good; if we can do it by environmental manipulation, fine; but if we have to resort in addition to drug therapy or to surgery (sympathectomy), by all means let us use a combination of efforts to help our patients. While I know of no evidence that well-established essential hypertension can be eradicated by any psychotherapeutic process, no matter how intensive or prolonged, I also feel that almost every patient with essential hypertension can be benefited by psychotherapy.

Although the psychosomatic approach does not offer a complete solution of the hypertensive problem and does not even apply to all patients, it is a practical method of dealing with a set of important factors that may be modified, whereas the constitution of the individual cannot be touched. It is an approach heretofore not sufficiently practiced. We are too much concerned with physical measurements in hypertension and too little concerned with the emotional life, which may hold the key to the satisfactory management of the hypertensive patient.⁶

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IT WOULD BE A MISTAKE to assume on the basis of our present knowledge that mere reduction of blood pressure is proof that our treatments delay the progression of the disease.

— E. D. Freis, in *Med. An. D. C.*, June.

PLERIGIOUS ANEMIA is essentially a disease of the temperate climate, affecting chiefly the white races. It is rare in Negroes and comparatively rare in the dark-skinned white races such as Italians and Greeks. It is uncommon in Jews and is very rare in Orientals.

C. R. Das Gupta, Calcutta, in *Blood*, July.

DEPARTMENTS

HUMAN BEHAVIOUR

For this issue JAMES M. NORTHINGTON, M.D., *Editor*
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HOW TO DIAGNOSE SCHIZOPHRENIA EARLY

OUR MEDICAL JOURNALS carry a great surplusage of articles telling that the great majority of "hospital beds" in the United States are occupied by patients with mental disease, and stuffed "statistics" to the effect that the mental factor is 50 to 75 per cent of the total in the average general practice.

A foreign journal¹ carries an article filled with helpful information on how the family doctor can detect cases of the mental disease that fills most of those beds, at the earliest possible time, when much can be done toward keeping these persons out of hospitals permanently.

Few doctors fail to recognize full-blown schizophrenia; all doctors make mistakes about early cases. The cardinal symptom in established schizophrenia is disordered thought. The fundamental attitude is that the external world is threatening, damaging, mischievous. The self is altered, but not responsible; for this outside agencies are blamed. The patient speculates about the alteration in himself and defends himself against this change in a number of ways that may give the impression of being neurotic.

Three-quarters of the cases begin between the ages of 15 and 30, when the normal person is leaving the stage of dependency for one of responsibility. Normal adolescents' experience is limited, yet they dare not admit this. They therefore brag, become ashamed, feel frustrated, give up in despair, or seek to solve their problems by ill-directed outbursts. Few go through these years without showing seclusiveness. Aims are vacillating; attachments becoming illogical, fretful, morose, and unpredictable.

The schizophrenic day-dreams, develops fantasies about himself, at which his later bearing of superficiality plainly hints; or he ruminates about normal bodily sensations until these become delusions, gradually more and more bizarre. Lonely and sensitive, he becomes suspicious when workmates talk—it must be about him. Turbulence in normal adolescents arises as much from unsteadiness in aim and thought as from rapid emotional changes. One seeks salvation for himself and his elders in excessive athleticism, fervent political loyalties, emotional religion, or becomes over-immersed in reading and study; may seek a haven in

¹ Henry Wilson, M.D., in *British Med. Jl.*, June 30th.

the Merchant Navy, which later he leaves as impulsively.

Not knowing the patient's background, be wary in diagnosing the disease. Some temperate Irishmen show conduct normal for themselves which would be psychotic in an officer of the Civil Service.

The morbid thoughts and speculations express themselves first through a falling off in normal interests, and the patient tries to concentrate upon examinations or factory work, and fails. He is aloof and dreamy. He may feel changed and say this change affects his head or his viscera; if asked to explain he is unable to do so, or blames others. Whereas with so many other patients we can place ourselves in their position, the schizophrenic's experience eludes us; we can almost get there, but never quite.

It is this near-to-normal quality, inappropriate-ness rather than impropriety, which is the hallmark of early schizophrenic thinking; turning away when we would expect enthusiasm; hilarity in place of quiet sympathy; over-activity where contemplation would better suit; disdain and hauteur of the patient so unlike his previous self is pathognomonic.

Similarly convincing is a patient's complaint that his thoughts have been interfered with: they have been introduced into his head or body; they have been stolen.

Objective signs of this interference with ideation are: Failure of the patient to continue a conversation, not answer our questions directly. Many early cases appear objectively only perplexed and we cannot tell why. The procrastinator admits his fault and does something. The schizophrenic smiles when taxed, gives an unconvincing promise, and does nothing. Looking at a magazine yet not reading, spending much time looking out of the window or into mirrors is suggestive.

Hypochondriacal anxiety is very common in the teens and twenties. In the non-psychotic it is a sign of emotional conflict.

Obsessional neurosis is anxiety with marked insight into the symptom's abnormality—"It is absurd to have to check this, but I simply must." The obsessional concerns of the early schizophrenic are more speculative than anxiety-producing.

There is an erroneous belief that hysterical manifestations do not accompany schizophrenia. Anything odd about the flavour of a hysterical complaint in an adolescent who has recently lost interest, lies abed, and is becoming dreamy, must not be dismissed as unimportant.

Two rare manifestations merit mention: fugues may initiate the illness; and, in my opinion, self-mutilators are schizophrenics.

Cerebral abscess and intracranial neoplasm may

commence with thought disorder and go on to abnormalities of conduct. Careful neurological examinations must be made. Psychopathic personalities and defectives, when in difficulties, may behave in strange and unpredictable fashion. Here an adequate history is essential, not of the illness alone, but of the person's past achievements and clinical history, his cultural background.

Schizophrenia should be met by ordered hope, great patience, and readiness to press for observation in suitable surroundings. Investigation by barbiturate injections and tests such as the Rorschach may clarify much in this difficult field.

HISTORIC MEDICINE

HISTORY OF MEDICAL TEACHING IN ITALY

THE SAD DETERIORATION of our mother tongue generally, and in medical literature especially, is deplored by all those who believe, with Osler, that doctors of medicine should have, "if not the education of a scholar, at least that of a gentleman." It is a truism that no writing can be translated into another language without losing in the process considerable of its literary quality. Just come to our desk is number 2 of volume 9 of the English edition of an Italian journal, which, along with the *British Medical Journal*, the *London Lancet* and the *Edinburgh Medical Journal*, shows that doctors on the other side of the Atlantic can still meet Osler's requirement.

For the perfection of its language and the intrinsic value of its content, the substance of an article¹ is passed on to those of our readers as may derive pleasure and profit therefrom.

The first information available on the medical schools in Italy is uncertain and unsupported by documentary evidence; and, in so far as the remotest teaching is concerned, is strictly limited to the ancient city of Rome.

The "patriarchal school" (as representing the teaching imparted by the "pater familias"), is traceable to the times of Cato, and represents the first method of practical teaching. Its goal was to make of young Romans, competent and responsible heads of families; as such they were taught anything that might be necessary for—or connected with—the raising of a family, which necessarily implied the nursing of the sick of the household.

The work of Cato the Censor (3d Century B. C.) "Medicina Domestica" testifies that such form of "household medicine" was the practice of those days. That work is now lost but fragments and quotations of it can be found in Cato's other existing work "De Re Rustica."

1. Adalberto Pazzini, M.D., in *Scientia Medica Italica*, April-June.

Nothing in the nature of a real medical school was ever started in Rome till the advent of Hellenism, which brought within her walls the medical men of Greece, Alexandria and Asia Minor. Plinius refers in slanderous terms to the nature of such schools, which Martial too makes the object of his biting epigrams; a mere gathering, around a self-appointed master, of all sorts of youths, who followed him in his round of daily visits listening to his works and running their hands over the body of ill-fated patients. However, some of these schools have handed down to posterity, such names as Asclepiades of Bitinia, Temison of Laodicea, Archiges of Apamaea. There were, doubtless, good doctors—perhaps very skillful ones—worthy of the admiration of moderns who might care to read about their achievements. Some of those savants have left writings which we must not hesitate to call invaluable, for the accuracy of clinical observation, the ingenuity of interpretation, the force of argument and the clearness of exposition.

The Emperor Vespasianus (9-79) did not go beyond granting salaries to Latin and Greek masters of rhetoric. The action by Hadrianus (117-138) was somewhat more positive. He started an "Atheneum," an organization that many historians look upon as the first approach to the Universities of later times. It cannot, however, be proved that medical lectures were held in this Atheneum. Only in the year 222 (Helius Lampridius) were instituted real courses of medicine by Alexander Severus, with "auditoria" and salaries. Only in the days of Constantine (272-337) do we find clear reference made to "Archiatrics" and to their attributions, and we learn that they were either "Palatine Archiatrics" (palace doctors) or "Poplar Archiatrics" (something like the "district doctors" of our time).

Julian the Apostate (331-363) ruled that any individual who intended to pursue the medical career should prove his capacity before a Committee composed of the best doctors of Rome. The first provisions of the law governing such control are found as far back as 368 in the law-codex of Theodosius and Justinian and concern those citizens who may be elected as doctors to the 14 districts of Rome. The historians of the time write that Theodosius II (401-450), Emperor of the Eastern Empire, instituted in Byzantium a "Capitolii Auditorium" (each important city had a capitolium) in every way similar to the one in Rome.

With the fall of the Western Roman Empire all information on the medical teaching comes to an end. The solemn formula with which the Count of the Archiatrics was invested shows the high standard of prestige then enjoyed by medicine; but, thereafter, when medical schools and teachers failed, and the standard of medicine sank lower and lower and verged on utter disappearance, the peace

of the monastic cloisters and the secluded atmosphere of the monkish order of Benedictines provided the most suitable ground for medical science to reorganize the acquired stock of knowledge and to thrive again. In the monkish cloisters one finds the first infirmaries—at first reserved for the sick monks but soon admitting laymen. The “Monacus infirmarius,” who was at the same time doctor, nurse and pharmacist, soon became the teacher of those monks who were to pursue his capacity within the Monastery and without. The Church schools, which formed the education of the clerics, no doubt included the teaching of medicine. We read the many instances of clerics, presbyters, deacons and subdeacons to whom reference is made as “Medicius.”

The School of Salerno was a medical centre of the utmost importance during the Middle Ages, the nearest and first (and for a long time the sole) approach to a real school, to which students and masters foregathered from the whole world, driven by the desire of either teaching or learning in that rightly famed centre of science. In the 9th Century, in the already established school of Salerno, the masters gathered all the medical knowledge available. Thus was born the legend about the four teachers: Elinus the Hebrew, Pontus the Greek, Adelas the Arab, and Salernus the Salernitan, meeting in the city of Salerno, representing their respective scientific worlds, and founding a school which today might be called international. The scholastic charter was soon officially sanctioned through the legislative provisions of King Roger II (1140) and the Constitution of King Frederick (1224): such provisions laid down the regular duration of medical courses, the lessons, the examination and the procedure governing the final diploma. Salerno thus witnessed the rebirth of Medicine: the masters Roger and Roland taught the necessity for an “anatomical conscience” in surgeons, recognized proper symptomatologic and diagnostic values, and dictated the first basic rules of hygiene. Princes, bishops and kings resorted to the School of Salerno, which was commissioned by a King (either Robert of Normandy, or Edward the Confessor) to write a book which is still famous: the “Flos medicinae Salerni” or “Regimen Salernitanum.”

After the schools of medicine had saved the stock of medical knowledge, threatened with destruction by the turmoil of the time, and had placed medicine on a solid basis, the necessity for a more definite didactical organization was felt. And this was achieved through the Universities.

The University institution showed its first sign of life in the 13th Century. The establishment of Universities is comparable, in its first decisive upward turn of scientific medical inquiry, to the establishment of scientific academies in the second

stage of cultural advance. A mention of the word “Faculty” is first made at the beginning of the 13th Century in a letter by Honorius III to the students of Paris. In the beginning “University” meant community or corporation of students, and the initiative was sponsored by Municipalities and Kings, the fame of whose territories was thus greatly enhanced. It is easy to understand that privileges, honours, exemptions and rich salaries to teachers were easily granted.

In a famous quotation by one Pepus, who taught law in Bologna, it would appear that that University was founded in 1088 and it is certain that in 1158 it was granted by the Emperor Frederick the famous “Autentica Habita,” which is the most ancient medieval document of scholastic literature. The Course of Medicine seems to have first shown signs of life in the 13th Century, since in a letter by Pope Honorius III to the Bishop of Bologna, clerical people were forbidden to frequent the school of medicine. The Faculty of Medicine of Bologna was granted official recognition and the same privileges as the Faculty of Law around 1290.

Soon followed the University of Padua, founded in 1222 by a group of teachers and students who moved from Bologna to this city. Padua soon acquired, in the field of medicine, the very best reputation; could boast of the greatest names in medicine, and it attained in the later days of the Renaissance, the highest peak of fame, not only in Italy but also abroad.

Out of hatred of Bologna, Frederick II founded a University in Naples in 1224, and the following year closed down the School of Bologna and ordered the students to be transferred to Naples. The University of Vercelli, established around 1225, had a brief existence—no more than 170 years, and its end was followed by the birth of the University of Turin in 1405. The rise of the University of Siena was probably as far back as 1203. Rome had its “Studium Generale” in 1303.

The University of Perugia goes back to 1226; on the 15th of September of that year the town's Senior Council despatched its ambassadors to the neighbouring cities to gather students. But it was not until 1367 that Clement V, with his bull of September the 8th, instituted a “Studium Generale et Perpetuum”: in 1321 Pope John XXII granted that University the privilege of conferring the doctorship of Medicine. In the year 1374 the Faculty of Perugia was famous enough to secure the lectorship of Francesco of Siena.

About the same date we learn of a flourishing Medical College in Parma, which promulgated its Charter in 1294. The School of Modena dates back to the 12th Century. A chartered school was established in Pavia ever since the time of Lotharius and precisely in the year 825.

Quite apart from the widespread "itinerancy" among monks and laymen, it was customary for students to seek abroad such knowledge as their own fatherland seemed to deny them. The renown of the teachers drew to those schools crowds of students, both Italian and foreign, who formed their own "Nations" within each University.

The school of Salerno was the first powerful call on those desirous of studying medicine, since it was for a time the only source of medical science available to European students; followed by Bologna and Padua. The famed school of Montpellier is said to have proceeded directly from Salerno, early in the 12th Century. From Salerno came, around 1180, Pierre Gilles de Corbeil, who later went back to his fatherland and brought such lustre to the school that Neuburger called him "Herald of the glory of the school of Salerno across the Alps." Ever since 1295 Bologna counted as many as 13 foreign "Nations," which became 16 in 1432. A certain Nicolaus Pernham, known as Nicholas the English, and who later became Episcopus of Durham, was a teacher at Bologna. Guido of Chauliac, the most famous of all French surgeons, studied first at Montpellier, then went as a student to Bologna and studied anatomy under master Alberto. Padua, in the Middle Ages, drew to its fold many foreign students, especially Polish.

Other centres established later contributed to the divulgence of medical knowledge, and the establishment of hospitals and medical colleges. University "Clinics" were, almost without exception, established within the hospitals, whilst the theoretical courses, except when laboratory experience was involved, were held within the Universities. It was Mondino de' Liuzzi of Bologna who in 1316 instituted demonstration on the body of a dead person, forsaking the method, not discontinued till much later by foreign Universities, of merely reading and commenting the old writings of Galenus. During the Renaissance, Italian anatomists dictated from Padua the axioms of the renewed science. Even Harvey, whom some maintain to have been the discoverer—whilst he was only the brilliant demonstrator—of the circulation of the blood, studied at Padua where he learned the new experimental method, the pride of Italian medicine of the time. Microscopic anatomy was first pursued at Bologna by the famous M. Malpighi (born in 1628), who was driven by a genuine inspiration for scientific researches and not by mere inquisitiveness like his contemporary Leeuwenhoek. The true method of clinical teaching was started for the first time in Padua in the 16th Century and it was followed in that hospital by Battista da Monte since 1543.

Bologna prided itself in the 16th Century in having the first academical school of plastic surgery

led by G. Tagliacozzi. In the first half of the last century, A. Giacomoni and G. Semola were the first to proclaim the necessity for an experimental pharmacology, in the modern meaning of the expression.

The first University teaching of psychiatry in Italy was started in 1838 within the Asylum of Turin by order of King Carlo Alberto; C. Lombroso, a professor in that city, first founded and lectured on the science of criminal anthropology; L. Devoto, in the year 1901, first conceived—and taught in Milan—social medicine.

The following centuries, even though they may have lacked the pride of the absolute supremacy of former days, did not fail, however, to bring due credit to Italy. After the period of the Wars of Italian Independence medical teaching regained its former level under the leadership of teachers famed throughout the world for their ingenuity and the importance of their researches.

FRANCOIS MAURICEAU (1637-1709) is in some respects the leading representative of the obstetric knowledge of his time and his work on the diseases of pregnant or puerperal women, illustrated with exquisite copper plates, was a sort of canon of the art in its time (Garrison). Mauriceau introduced the practice of delivering the child from the bed rather than from the obstetrical chair.

SIR KENELM DIGBY (1603-65): One of the most fantastic incidents in medical history is that of Digby's Discourse Touching the Cure of Wounds by the Powder of Sympathy. This treatment often consisted in the application of the powder not to the wound, but to the instrument which made it! Hence, "weapon-salve." The idea got wide currency, and there is a whole literature devoted to it.

Digby also had pretensions as a beauty specialist, as indicated in the title above. "In order to preserve the beauty of his wife, Dame Venetia Stanley, a lady of a perfectly healthy constitution, he fed her on capons fattened with the flesh of vipers. She died suddenly, and some suspected poison . . . He found it expedient to retire to study chemistry in the seclusion of Gresham College." (R. T. Gunther).

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

DENTAL HEALTH PROBLEMS OF CHILDREN

A TEACHER of dentistry¹ gives an outline of preventive and curative care of teeth through life.

Children's dentistry is concerned with the problems of growth and development of dental caries, of malocclusions, and of periodontal disturbances.

The acids involved in the caries process are derived from carbohydrate substances, principally refined sugars, after they have been acted on by the microbial enzymes. Among microorganisms

¹ F. R. Shiere, D.D.S., Asst. Prof. Oral Pediatrics, Tufts College Dental School, Boston, in *R. I. Med. Jl.*, April.

found capable of producing this acid potential are lactobacilli, streptococci, diphtheroids, yeasts and staphylococci.

The toothbrush is employed largely for esthetic reasons. To be effective as a caries control measure it must be used *immediately* after eating. The saliva is a highly buffered mixture which will neutralize large quantities of acid. Poor contacts of the teeth, malocclusion, pits and fissures in the tooth structure, and dental appliances contribute to impeding the normal flow of saliva throughout the spaces of the mouth. A diet inadequate for the needs of the body favors tooth decay. If the diet is high in the caries incidence should be low, as conversion of starch to sugar and acid occurs slowly so that any acids if formed would either be cleared from the mouth before conversion or neutralized.

If the consumption of calcium is adequate to meet the general body requirements addition of this element cannot be relied upon to prevent dental disease. The enamel and dentin of the teeth are not storehouses of calcium and the teeth are not subject to calcium withdrawal, in either normal children, or children with bone or blood deficiencies. However, an adequate calcium intake is important during the entire period of development of the child, to assure bone, soft tissue and blood replacements.

Several cities in the United States have added fluorine to their water supplies. The data for the 10-year study will be available shortly. To date, the Wisconsin report shows a 40% reduction and the New York report shows a 32.5% reduction in caries.

Several of the antibiotics have been incorporated in dentifrices for brushing hamster teeth; penicillin has been the most effective. In a 2-year study of 400 school children, six to 14, using penicillin tooth powder, reduction in caries incidence amounted to 55%. There has been no indication of a development of penicillin resistance on the part of any groups of microorganisms.

The last method of caries control is good operative dentistry. It is the dentist's responsibility to remove all of the decay. No potentially carious grooves must be left, the cavity outline form must extend into self-cleansing areas—buccally, lingually, and beneath the point of contact.

Hypofunction of endocrine glands results in an undergrowth of the face, while hyperfunction causes an overgrowth of the face of the acromegalic type.

An abnormal sequence of tooth eruption will result in crowding of the teeth. The loss of proximal contact from caries, congenital absence of teeth, premature loss of primary permanent teeth will allow a shifting in the arch and cause a loss of balance of the denture. Inharmony of the size of

teeth and jaws also contribute to malocclusion.

Thumb- and finger-sucking, lip-biting and adenoids are injurious to correct alignment of the teeth and jaws. Preventive measures should be instituted promptly. Again, good operative dentistry can prevent the premature loss of the primary teeth and the resultant loss of space and malocclusion.

Attention should be directed to the periodontal problem in children, knowing as we do the great loss of teeth from periodontal disease in adults.

All of the primary teeth erupt between 2 and 2½ years of age. Shortly after that time, the child This visit should be a pleasant experience, do much should be taken to the dentist for his first visit. to prevent the fear that often leads to a postponement of needed dental care. Regular dental visits after that time should be made for prophylaxis, fluoride treatments and x-rays. The most effective means of controlling dental caries and the loss of teeth is by the discovery and treatment of small defects. Regular brushing care should be instituted in the home with the assistance of the parent.

School dental clinics, rural trailer clinics and fluoridation of water supplies can contribute a service to many communities. Physicians, dentists, health educators, teachers and nurses should stress the importance of examination as soon as possible after the eruption of the teeth.

There should be no greater satisfaction in the professional life of a dentist than to guide a child to and through adulthood without the loss of a tooth. In light of our present knowledge, it should be possible to discharge this responsibility effectively.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., *Editor*, Charlotte, N. C.

OPHTHALMOLOGIC URGENCIES AND EMERGENCIES

A CHICAGO OPHTHALMOLOGIST¹ went all the way to Montana to talk about eye conditions which demand immediate, proper care. It is doubtful if he could have spent the time to better advantage, than in wisely warning and advising as is summarized in the following paragraphs.

In many situations the final outcome is much more dependent upon the promptness with which treatment is instituted than upon the special skill of the doctor. One of these situations is the acute development of glaucoma.

In the normal human eye a steady stream of fluid proceeds through the chambers at 3 cm. a minute, an intricately constructed outlet draining aqueous humor out of the eye and into the blood stream. Disturbances in the development of this

¹ P. C. Kronfeld, M.D., Chicago, in *Rocky Mountain Med. Jour.*, July.

outlet may give rise to congenital or infantile glaucoma. With increased intraocular pressure, the eyeball stretches and grows more rapidly. The pressure causes the retina and optic nerve to atrophy, the cornea to turn cloudy. Except for its latest stages the disease is painless. The parents are usually aware only of beautifully large eyes. A simple surgical procedure has been developed which, repeated a number of times, cures in three out of four such cases.

Persistent unilateral strabismus also represents an ophthalmological urgency, though it may require long study. Prompt occlusion of the fixing eye, which is applicable to infants of any age, can enable the squinting eye to grow into a normal eye.

Perforating injury demands with the shortest possible delay adequate doses of anti-infective agents. For the same reason that causes us to administer antitetanus serum in any case of deep, soil-contaminated skin laceration, the anti-infective treatment should be all-inclusive—one single large dose of penicillin subconjunctivally, plus a large dose of triple sulfonamides or of gantrisin orally. Here the responsibility of the G. P. usually ends. If the perforation is large it usually requires plastic repair which, as well as the removal of intraocular bodies, will have to be left to the ophthalmologist.

Contusions of the eyeball are inflicted by blunt objects. In the milder cases of intraocular hemorrhages, treatment with drugs is of far less importance than complete rest for several days to a week, since serious recurrences directly related to physical activity are likely. The patient with a contused, partly blood-filled eye should be treated just like the patient with a concussion or a suspected fracture of the skull.

The number-one emergency in ophthalmology is acute congestive glaucoma. It is an emergency both in the sense that every hour of delay means some permanent visual loss, and in the sense that the disease in its early phases is extraordinarily amenable to treatment, which in the hands of the G. P. should consist of a powerful, readily available miotic, such as eserine ointment, topically every half-hour. If there is no decided improvement after six hours of such treatment the case becomes a surgical one; and this surgery should be advised, insisted upon and carried out with the conviction that early acute congestive glaucoma is one of the few eye diseases in which treatment is effective in more than 90 per cent of the cases.

The diagnosis is difficult in the not infrequent case in which the systemic symptoms overshadow the local. The vomiting, dehydration, pain in the abdomen with rigidity of the abdomen, and feeling of being very ill, can easily lead us astray if we neglect to take one look at the patient's eyes. This look, in the case of acute congestive glaucoma, will

show a congested eye, a steamy cornea, a fairly wide pupil, a shallow anterior chamber and a very high tactile tension. To the examiner's question, "Why didn't you tell me about your eye?" the patient will usually reply that he thought that to be minor compared with his "main sickness."

In acute glaucoma the systemic symptoms are sometimes so severe, especially with reference to abdominal pain and rigidity, nausea and vomiting, that surgery below the diaphragm has been done for what appeared to be an acute abdominal catastrophe.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TREATMENT OF SYPHILIS TODAY

IT IS GRATIFYING to read an article which says a certain treatment *should be* given, not *may be* given. Thomas¹ knows what he writes about, and his statements are plain and positive.

The treatment of syphilis is easy and simple. In the great majority even of late cases it can be completed within 15 days. Early darkfield-positive syphilis has responded well in at least 85 per cent of cases following a single treatment with 2,400,000 units of procaine penicillin in oil and aluminum monostearate and at Bellevue Hospital we have found no advantage in continuing the treatment of most cases of early syphilis with repository preparations of penicillin beyond one week. Late neurosyphilis which was formerly the most difficult type of infection to treat, it now appears, can be successfully arrested in over 90 per cent of cases by 15 daily injections of 600,000 units of procaine penicillin in oil and aluminum monostearate.

It is wise to give no less than 1,200,000 units for the first injection in the treatment of early syphilis; then daily injections of 600,000 units for five days, or 1,200,000 units at less frequent intervals.

For late syphilis other than neurosyphilis a total dosage of 6,000,000 units of penicillin, given over a period of not less than 10 to 15 days is adequate for most cases. Injections of 1,200,000 units may well be given every other day, or injections of 600,000 units daily with the omission of Saturdays and Sundays if the latter is desired. For all types of neurosyphilis we have found daily injections of 600,000 units of procaine penicillin in oil and aluminum monostearate for 15 days have afforded satisfactory treatment in over 90 per cent of cases. Probably injections of 1,200,000 units every other day for eight injections would give equally good results.

¹ E. W. Thomas, New York City, in *Bul. N. Y. Acad. of Med.*, Mar.

In genuine relapses of patients treated for early syphilis, double the amount of penicillin advised for the original treatment, but it is not easy to distinguish between true relapse of early syphilis and reinfection. The latter does not require larger total doses. For relapsing or very resistant cases of neurosyphilis we have had to re-treat several patients three or four times with increasing doses of penicillin. Satisfactory results, as shown by spinal fluid findings, were obtained in two cases only after a third re-treatment with 40,000,000 units. *It is rarely necessary to resort to metal or fever therapy in the treatment of any type of syphilis.*

We have encountered very few cases of penicillin sensitivity where it is impossible to use penicillin. Urticaria and angioneurotic edema during or after penicillin therapy does not mean permanent sensitivity. Most such cases will tolerate penicillin well within several weeks after the reaction has subsided. The very rare case of prolonged or permanent sensitivity to penicillin can be readily diagnosed by positive intradermal or patch tests. In the presence of such positive tests further use of penicillin is contraindicated.

From the limited data available aureomycin 4 Gm. a day for 10 to 14 days can be tried when penicillin is not tolerated or has failed to check the infection.

Can you imagine any doctor of 20 years ago anticipating such progress in the treatment of syphilis? It is truly marvelous. What a wonderful thing to be a doctor now that we can do so much for our patients!

Sounds like heroic treatment—

LIGATION OF EXTERNAL CAROTID ARTERY TO STOP PROLONGED NOSE BLEEDING

(Murdock E Queen, M.D., et al., Atlanta, in *Jour. Med. Assn. Georgia*, May, 1951)

The following methods of controlling bleeding should first be employed; packing, both intranasal and postnasal, vitamin K IV or IM, whole blood, plasma, electrolytes IV, elevation of the head, cold compresses and sedatives. When bleeding persists, despite these efforts ligation of the external carotid artery is achieved with ease, involves very little hazard and the result is most gratifying.

Venous bleeding must be kept in mind. Cutting or tearing of the large, delicate veins may result in air emboli due to the sucking action of the respiratory movements.

After the skin incision, tissues should be separated with the fingers, the knife handle, or by spreading action of scissors or clamp.

IMMUNIZATION SCHEDULE

(A. H. Elliott, M.D., et al., in *N. C. Health Bulletin*)

1 month—Examination and conference with mother.

2 months—Conference. First injection of alum-precipitated diphtheria and tetanus toxoids with pertussis vaccine (should include 15 billion pertussis organisms).

3 months—Conference. Second injection D-T-P.

4 months—Conference. Third injection D-T-P.

5 months—Conference. Vaccination against smallpox.

6 months—Conference and examination. Record result of

smallpox vaccination and revaccinate if necessary.

7½ months—Conference.

9 months—Conference.

12-18 months—Conference and examination. Booster dose D-T-P.

School entrance—Examination. Booster dose D-T-P. Revaccinate against smallpox.

If the intervals between injections exceed the one specified, continue the immunization schedule unchanged.

When typhoid vaccine is administered, the following dosage is recommended for adults: 0.5 c.c. weekly for three doses. This should be reduced proportionately for infants and children. Annual booster doses of 0.1 c.c. intradermally should follow the primary immunization. The booster injection may be given subcutaneously, if preferred, using a dose of 0.5 c.c. for adults and less for children.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

SMALL HOSPITAL ADMINISTRATORS

MUCH has been written concerning the professional personnel of hospitals, emphasizing all departments except administration. The success of this department determines to a large extent the success of the whole institution, for a hospital that cannot pay its bills will soon close. Provision of hospital administrators for small hospitals can best be made by the larger hospitals and medical schools. Several of these attempting to train, I think, very well indeed, men who have already attained a college degree and who can afford three to five years more training before they become self-supporting. Obviously, therefore, these individuals will not seek a position in a small institution. They will be able to successfully operate larger institutions and particularly those heavily endowed.

The requisites for any hospital administrator—hospital large or small—are honesty, energy and economy. A high-school graduate, honest, energetic and thrifty, is good material for a hospital administrator. There are many high-school graduates who neither have the money, nor can spare six or seven years more, for college before they become self-supporting. These persons could be made into good hospital administrators if some medical school or large hospital would come to their rescue. They would gladly make great sacrifices to remain in college and training two to three years, if at the end of such time they would be qualified from the standpoint of training to administer a small hospital, with a much better salary than would be theirs if they had not spent two or three years in special preparation. So far as the writer is informed, there are only two medical schools which give a degree in hospital administration.

These young men would be supporting themselves in useful jobs at the age of 21 instead of at the age of 28. They would be able to save the

money for any post-graduate work they might desire. In the meantime they would have filled a very necessary position and their income would surpass in a few years that of the average of one who has spent four years earning an academic degree.

If a young man is honest, he is truthful. If he is energetic, he is going to work faithfully. If he is thrifty, he will make his employer's dollar go as far as possible. All these qualities are derived from inheritance and home training, and should be fully developed by the time he finishes high school. It is the older man's responsibility to give him an opportunity to develop himself without waste of time.

The writer hopes that more big institutions will be big enough to come to the rescue of the small institution by training young men who will be qualified to administer the affairs of these hospitals. It does not take a superman to fill these jobs. Four extra years in college is a prohibitive requirement and therefore should not be arbitrarily fixed by the teaching institution. Every man should be given the opportunity and encouragement to better his status in life. Some will go all the way, some will go half way, and some will simply better their present situation; but when all is added up, it simply means that every person can be a little more efficient, a little better off financially and a little more happy and satisfied with himself if we older ones gave them the opportunity and encouragement to make good use of it.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

CANCER DETECTION BY THE GENERAL PRACTITIONER

A KNOWLEDGEABLE SURGEON¹ writes the most practically useful article on the saving of life by early detection of cancer that has come to this desk in many a year. He recognizes the G. P. for the "intelligent, competent man he is, encourages him to find out—with help in some cases—what is wrong, and nowhere says he should send the patient anywhere "for a diagnostic survey."

The men practicing in the small towns and villages are as acutely aware of the cancer problem as are their colleagues in the large medical centers. They are handicapped only in lack of time to do what they want to do for their patients. Each physician, no matter where he practices, must make his office a center for the detection of cancer.

All of us must think often: May this be cancer? Most commonly cancer is in regions or organs that can be seen and felt—in the skin, breast, cervix, and rectum. With the exception of the stomach,

most common cancers are visible or palpable, or both.

The ordinary doctor has all the essentials in his office at all times. Adequate equipment, complete physical examination and complete records are the most important means. A light, a tongue blade, an otoscope and ophthalmoscope combined, a laryngeal mirror, blood pressure apparatus, a vaginal speculum and a proctosigmoidoscope make up the essential instrument list; the extra list would include an actual cautery, a few surgical instruments and a small autoclave and sterilizer.

The most difficult problem he will have will be the getting his patients to have, periodically, complete physical, rectal and proctoscopic examinations. All of these procedures and record keeping will take a great deal of time. As he works along he will become more accustomed to the routine and will find that his records are more complete and his people more satisfied. One cancer found early and adequately treated is worth a lifetime of seeking.

The physician must be suspicious and inquisitive, and know the common sites in which cancer occurs, and about "precancerous" lesions—e.g., that all lesions, whether on the skin, mouth, breast, anus, cervix; all masses, no matter where found, and any abnormal bleeding, should be considered as cancer until proved not so to be.

It will be *only a little* more difficult for the practitioner of a community without hospital or pathologist. In a container such as is used to mail blood and urine samples, any specimen for a pathologist is put in 10 per cent formalin and sends by regular or air mail, and in a week at most comes a report from the pathologist.

Biopsies of skin, cervix, rectum and anus, bladder, mouth or lips can be taken in the office. Biopsies of bone, thyroid or breast are better taken in the hospital. If the physician is able to interpret the results, the cervical smear will help him; but generally the biopsy will tell him more.

What should the physician look for? Some system of examination should be planned and followed through in each case, and no area will be missed. The upper part of the face, especially in older individuals and in outdoor workers, is the frequent site of cancer. Senile keratoses, sebaceous cysts, dermoids, lipomas occur on the face, head and neck especially. The sclera and conjunctiva are occasional sites of melanoma.

A history of bleeding or chronic discharge from nose or throat should be investigated. Transillumination of the sinuses, and x-ray may help in early diagnosis of cancer.

For exam. of the lip, tongue and mouth, pharynx and larynx, all the doctor needs is a light and tongue blade, a laryngeal mirror and a pair of

¹ Edward J. Jordan, M.D., Assistant Professor of Clinical Surgery, St. Louis University, in *Clinical Med.*, June.

rubber gloves. The lower lip, the angles of the mouth, the floor and the cheek are frequent sites of cancer. Flat or elevated leucoplakic patches are forerunners.

For investigation of any mass or lump in the breast, patients should be in the hospital from the beginning. Exposed skin surfaces are common sites of cancer. Neck and waist line should be carefully inspected for lesions which may become cancerous due to constant irritation.

Respiratory system—Physical examination reveals very little to aid in early diagnosis. X-ray, bronchoscopy and the smear studies may help.

Early diagnosis of cancer of the *upper* gastrointestinal tract requires special techniques. *The home doctor* can diagnose early cancer of the rectosigmoid, rectum and anus by proctosigmoidoscopy and digital examination; 65-70 per cent of all cancers of the colon occur at the rectosigmoid or further down. No patient with any type of bowel complaint should be allowed out of the office without a proctoscopic and a digital examination being done.

If the practitioner does his own cystoscopies in his office, he should include this examination in his routine. Any lesion of the bladder or prostate may be felt and sometimes seen. A biopsy may be taken at the time of examination.

A suspected swelling of a bone should be studied in a hospital, if possible, also suspected tumors of the brain or nervous system.

SURGERY

WM. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

THE CLINICAL SIGNIFICANCE OF THE CERVICAL FASCIAL PLANES

A KNOWLEDGE of the cervical fascial planes is essential to proper diagnosis and treatment of infections and tumors of the neck. The superficial fascia presents no particular problem. The deep cervical fascia consists of several layers. The superficial layer of the deep cervical fascia is that which lies deep to the platysma and covers the large veins in the anterior portion of the neck. It forms a continuous sheath of fibrous tissue which completely encircles the neck, also the sheath of the sternomastoid and trapezius muscles. Inferiorly it is attached to the sternum and clavicles and superiorly to the hyoid bone and mandible. The pretracheal layer has two subdivisions which ensheathe the muscles which run between the hyoid bone, the thyroid cartilage, and the sternum. Deep to these is the important visceral layer of the pretracheal fascia. It surrounds as a sheath the trachea, the thyroid gland, and the esophagus. The prevertebral layer lies over the anterior surface of

the bodies of the vertebrae and extends laterally over the scalene muscles to form the floor of the posterior triangle of the neck. As it extends laterally, it gives off a shunt which passes anteriorly between thyroid gland and the carotid artery, forming the medial boundary of the carotid sheath. All of the deep fascial layers take part in the formation of the carotid sheath.

A parapharyngeal space infection results from a spread from an inflammatory process from the pharynx and tonsils. If not relieved by drainage from within the pharynx, the process extends along the fascial planes of the neck. In such case, the best surgical approach for drainage is through the submaxillary triangle. Submandibular space infections commonly result from tooth infections, which, if uncontrolled, break through the mylohyoid muscle. Posterior extension results in edema of the larynx with respiratory obstruction—Ludwig's angina. The best surgical approach for drainage is through a transverse incision anterior and superior to the hyoid bone, carried through the median raphé of the mylohyoid muscles.

In this well-written article,* other neck infections are described as well as the surgical approach for the removal of certain tumors.

*Casberg, M. A.: *Surgical Clinics of North America*, 1950, St. Louis.

THE INDOLENT ULCER is best treated by horizontal posture, conjoined with pressure. Straps of adhesive plaster an inch or two broad, and long enough to encircle the limb, cross each other far enough to obtain a firm hold when drawn around the leg, from an inch or two below to an inch of the skin, above the ulcerated surface. A cotton roller, three inches broad and five yards long, is applied from the toes upward. Unless the discharge is profuse, the sore need not be dressed oftener than once in two days.

—From *Symp's Surgery* (1866).

MICROSCOPICAL INVESTIGATION OF MORBID GROWTHS has, of late years, been pursued with great assiduity, in expectation of its affording better characters for discrimination than those appreciable by other modes of examination. It must be confessed that little, if any, practical advantage has been obtained from this source—while the trust reposed in it, by withdrawing attention from the diagnostics presented by the sensible qualities, attendant circumstances and histories of tumors, has in many cases led to the most serious mistakes. It is not impossible that the microscope may yet penetrate the obscurity which now renders its observations so uncertain. In the meanwhile a surgeon will best discharge the duty which he owes to his assistance, by careful study of the sensible characters.

—From *Symp's Surgery* (1866).

OBSTETRICS

H. J. LANGSTON, M.D., *Editor*, Danville, Va.

DELIVERY IN THE PHYSIOLOGIC POSITION

BLOCK ANESTHESIA causes the mother to lose the expulsive urge, midforceps to be required frequently, outlet forceps almost as a routine. This is outweighed by the safety to the mother and the babe of block anesthesia. So Howard¹ believes, and he describes his method of delivery on a table of his own design under this anesthesia.

When the pains are every five minutes and strong or the cervix is five cm. dilated along with regular and strong pains, give 1 c.c. 1:200 nupercaine, 1 c.c. 10 per cent dextrose with .05 c.c. 1:1000 adrenalin intrathecally in the third or fourth lumbar interspace. Immediately thereafter give 1/4 c.c. neosynephrine IM immediately and take the b. p. Take care that the anesthesia does not go above the costal border—accomplished by putting the mother's head on a folded pillow.

B. p. every five minutes for two or three recordings; again examine to determine the stage—frequently the amount of dilation will amaze the examiner. When the cervix is fully dilated, the mother is placed on the table and station determined. If the head is at or above the spines, elevate the backrest to 60° with the horizontal and in 15-30 min. the head will be delivered. The head on the perineum, elevating the patient 30 to 40° and applying light pressure to the abdomen will deliver the head easily without the aid of forceps.

Some caution should be observed. If the b. p. falls below 100, 1/4 c.c. of neosynephrine solution should be given. If the b. p. cannot be elevated with vasopressor drugs, the head of the table is lowered.

The table which I have designed and used has a conventional backrest and sliding footrest. The backrest can be elevated to 90°. The knee crutches are secured to this back piece and are supported by L-shaped square steel rods 1 1/2 inches thick. One bar of the L holds the crutch and the other is held in a lock device which controls the width that the knees are held apart. A device which is best described as the posterior part of a bucket seat is adjusted to the table in such manner as to lightly support the buttocks.

A sliding foot-piece insures that the babe, once delivered, will not fall to the floor if the accoucheur is otherwise occupied. Crazy wheels with one set of wheel locks provide locomotion.

After the babe is delivered, the mother is given the usual oxytocic, lowered to horizontal, the placenta delivered and any necessary perineal repairs made. The fact that this table has the so-called

crazy legs makes but one transfer of the patient necessary from the table to her own bed. Labor on the table is perfectly comfortable.

BEARING BABIES IN THE HOME HAS ITS ADVANTAGES

A PROFESSOR of obstetrics in one of our greatest medical schools¹ offers sound reasons for women bearing their babies in their own beds.

It is heartening to hear this voice—a lone voice among "the authorities"—raised in favor of a return to reason on this subject. Only a few days ago a statistical bulletin claimed with pride that 87 per cent of all deliveries last year were in hospitals. And the farmer who brings me farm products every Saturday says there's a woman in his neighborhood who, B. R. (before Roosevelt) could be hired to pick cotton, now has a bastard child every year, for the bearing of which she is brought to a Charlotte hospital in an ambulance, and she and her brood are maintained all the time out of his and other taxpayers' money—"yet they toil not neither do they spin."

Most desired by the newly puerperal woman is rest. For those who cannot afford a private room—the majority—are returned to a ward or semi-private area where sleep and rest, even with the aid of sedation, is brief and fitful. There is no prolonged refreshing slumber even for the patient in a private room, her presence in a hospital today appears to be a matter of secondary importance: secondary to obsolete but fixed hospital routine, secondary to the schedules of ward helpers, orderlies, nurses and doctors.

At some absurd hour she is awakened by a thermometer inserted into her mouth, a pitcher of ice water placed on her table, or instructions to get washed and ready for breakfast, which commonly arrives an hour or two later. Any attempt to snatch a brief rest during the remainder of the day is likely to be interrupted by her baby, the cleaning women, the nurse, the doctor and others.

The difficulty of obtaining rest in a hospital is one of the bugaboos of hospital stays. Too often it marks the beginning of the well-recognized fatigue syndrome so commonly observed in new mothers.

Most young mothers are basically healthy. They generally do not need or desire all the traditional hospital routine which is forced upon them. They would do better during the intermediate puerperal stage in a hotel room where service is good, *but given only when asked for*. In homes where help is available everything is geared to the mother's needs and comfort. It is high time hospital administrators and physicians bring about alteration in hospital routine sufficient to make puerperal women feel their stay was worthwhile.

¹ J. H. Howard, Pocatello, Idaho, in *Northwest Medicine*, Feb., 1950.

¹ N. F. Miller, M.D., Ann Arbor, Mich., in *Jour. Iowa Med. Soc.*, July.

Concern over expense further undermines the tranquillity of readjustment during the late puerperium. This often has a telling effect upon the future health of mother, father and child. For the young woman whose husband has an average income the cost has today reached the point where women in this category must once again consider the feasibility of home delivery.

FATAL AIR EMBOLISM DUE TO VAGINAL DOUCHING IN PREGNANCY

(R. T. Cooke, in *British Med. Jl.*, May 27th)

Forbes (1944) reviewed the causes of air embolism in general, described a case of his own, and mentioned fatalities during therapeutic vaginal insufflation recorded by four others.

One case was that of a primipara, aged 25, who had been douched and insufflated in the sixth and seventh months of pregnancy, and who died within a few minutes of the start of a further insufflation seven days before her expected date of delivery.

This patient, 35, had four previous pregnancies, including twins one year old. Her last period was towards the end of April, 1949. On the night of June 29th she prepared to have a bath, and was found at 10:15 p. m. collapsed on the bathroom floor, with a Higginson syringe lying between her thighs; she was alive, but could not speak, and died shortly after. At necropsy 13 hours later a few drops of fluid were found just inside the vagina; this fluid contained traces of soap, similar to the teaspoonful of fluid that remained in the Higginson syringe. A 2-in. foetus was found in an intact uterus; the cervical canal contained a mucous plug, the external os showed a complete delicate pink ring of erosion, and there was no sign of haemorrhage. On cutting the uterine wall in several places frothy blood escaped. The right ventricle of the heart was almost distended by finely frothed blood.

Death was ascribed to air embolism from the use of a Higginson syringe. Even if deceased knew that she was pregnant (which was doubtful) she might have been merely douching herself for hygienic purposes.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

THE GENERAL PRACTITIONER AND THE CROSS-EYED CHILD

THE G. P. should know what advice to give to parents of a cross-eyed child, and, in order that he may speak convincingly, he should know why his advice is thus and so in a given case. An Ohio eye-doctor¹ offers this information.

At birth all babies are far-sighted, the power of accommodation is practically nil and the retina is poorly developed, so the very young child has very poor vision. As time passes both his ciliary muscle and his retina develop and by exertion objects can be brought into clear and sharp focus. When the infant accommodates he also converges, so, as he begins to see clearly he also begins to use both eyes together. If there be any defect in the muscles, or other condition prevents the proper development of

¹ J. G. T. Stine, M.D., Columbus, in *Ohio Medical Jour.*, Aug.

this accommodation—convergence ratio, as perhaps would be present if the child were unusually farsighted, then there develops overconvergence; the eyes cross. Usually, at first this crossing is only occasional, but it rapidly becomes more frequent until it is a fixed condition varying only in amount of squint.

When one eye is looking at one thing and the other is looking at another, as is the case in crossed eyes, the result is to see double. The brain refuses to accept double images, and, offered two, will accept only the image that is the clearer. The image from the crossing eye is ignored by "suppression." At first suppression is a conscious and voluntary thing but soon becomes involuntary—amblyopia or blindness of disuse.

The vision in the straight eye may be perfectly normal while that of the crossing eye may be 5 per cent of normal or even less. This blindness (blockage of vision) is not in the eye, but in the brain, and is a learned process, which can be "unlearned" by the use of exercises and orthoptics.

The first step in the treatment is a careful refraction under the influence of a cycloplegic—in the case of children this means atropine—and prescribing the correction for the total amount of hypermetropia found. If "suppression" has begun, constant occlusion is effected and continued until the vision is practically the same in each eye. If the eyes are not straight by this time, the case is almost surely surgical; but if the deviation is quite small it may be amenable to orthoptics.

All orthoptics can do for the patient is to break up the abnormal seeing habits he has developed and to teach him fusion. These in themselves will never cure heterotropia. It is possible by means of exercises to convert a small tropia (eye deviation uncorrected) into a phoria (eye deviation kept latent by means of fusion). Orthoptics should be only an adjunct to the other methods of therapy.

We have considered the type of heterotropia that appears in the second or third year of life. Another type which appears at birth or very shortly thereafter—at least within the first year—is almost invariably due to some fairly grave anatomic anomaly and should have the benefit of surgery as soon as the child reaches an age where accurate measurements are possible, usually about one year.

Normally infants have little or no bridge to their nose. The tissue at the inner canthus is excessive and causes less white to show on the nasal side of the eye. Merely pinching up the tissue at the bridge of the nose causes equal amounts of white to show on nasal and temporal sides of the eye. This simple test may afford the doctor a means of relieving a mother who fears her baby is cross-eyed.

The physician should advise the parents of cross-

eyed children to begin treatment immediately; that surgery is frequently necessary and that the earlier the eyes can be straightened the better are the chances for a normal development. No parent should ever be advised to, "Wait and see if the child doesn't outgrow his crossed eyes." It just doesn't happen!

PROCTOLOGY

PROCTOSCOPY FOR THE PHYSICIAN

A PROCTOSCOPIC EXAMINATION should be a part of every complete physical examination. Many internists and others are now including this simple examination as a part of the general physical examination. Christensen's¹ article is one of the many now current, which shows a great change from attitude that only the specialist is qualified to use the tools of his specialty.

The substance of the article follows.

The patient can be examined on a table of any sort. Have him get first on the hands and knees, and then cross the left arm beneath the chest and instruct him to put the left ear on the table. The examination can be done in the patient's bed by crossing it diagonally. A weak or ill patient should be supported by an attendant. Slight darkening of the room is helpful.

If you have but one proctoscope it should be the 5-in. x 10-in. The lights used on the distal end of a proctoscope are delicate and often break or become covered during the examination. A light attached at the outer end is more desirable. A 1.5- to 2.5-power lens over the scope serves two purposes. It magnifies the field just a little and makes the scope air tight. A bulb and connection for inflation of the colon is helpful. A source of electric power may be either dry cells or a small transformer. Long cotton swabs and a suction tip will complete the diagnostic set. The cost of this basic set is about \$30.00.

Have the patient come to the office without special preparation. If a cleaning out is necessary, use warm saline solution. If suction is available, little water in the bowel will not prevent you from completing the examination.

A digital examination should precede the use of the proctoscope. *Vaseline is the preferable lubricant.* The obturator held in place the scope is introduced, pointed toward the umbilicus, using steady gentle pressure until the sphincter is passed. Then remove the obturator and attach the light, lens, and air-inflator. From this point on the scope is passed only under direct vision. Serious injury will not occur if the end of the scope is continuously observed.

¹ J. B. Christensen, Omaha, in *Nebraska Med. J.*, Mar.

The bowel is insensitive to ordinary injury and can be cut or cauterized without pain. A pull on the mesentery will cause cramping. Pressure on pelvic organs and perineal structures can cause discomfort.

The direction of the scope now changes to the sacral promontory. Introduce just enough air to keep the bowel open in front of the scope.

If it appears that a blind end is encountered, the scope has passed in back of the valve, or fold of mucosa, and should be slowly withdrawn until the free side of the fold is found. Now direct toward this free side, crowding the fold aside. The direction of the scope will gradually change to a point anterior to the promontory of the sacrum to make it possible to pass into the sigmoid loop, which you will recognize by its concentric rings of mucosal folds. The lumen is smaller and will not as readily inflate. After an interval a little more inflation may dilate the sigmoid for 5 to 10 cm. beyond the end of the scope.

A word of encouragement to the patient and having him exhale, followed by regular breathing may help to bring the bowel in line with the scope. The bowel will often again contract as it is entered and delay again. We cannot go above a definite stricture, around a corner, or examine a very painful lesion. A proctoscopic examination can be done under anesthesia, using or improvising a proctoscopic table, but you must be more gentle.

When you have gone as high as is possible, begin to withdraw in a spiraling manner, carefully watching through the scope at all times.

The detection of cancer and the precancerous polyp will head the list. Endometriosis, benign tumors, strictures may be studied. Treatment of these diseases may be intelligently done, and progress observed, through a proctoscope. Acute and chronic colitis can be diagnosed and the response to treatment noted. Foreign bodies may be found and removed.

In some cases of rectal bleeding the source can not be seen, but since all anal lesions and about 80 per cent of all cancer and precancerous lesions of the colon can be seen, less than 20 per cent remain above the level of the scope.

Malformations, pelvic inflammation or tumors, previous surgery of the pelvic organs, and many other conditions make it impossible to pass the scope all the way on a considerable number of patients, but even a limited examination may be of great value.

REPORT NEOMYCIN EFFECTIVE IN TREATING BLOOD,

URINARY INFECTIONS

(G. Duncan et al., of Pennsylvania Hosp., Phila., in *Jl. A. M. A.*, Jan. 13th)

Ten patients suffering with bacterial infections of the blood or urinary organs were treated with the drug. Preliminary laboratory tests showed that the disease organisms

were not affected by other methods of treatment, including antibiotics such as penicillin, streptomycin, aureomycin and chloramphenicol, but were sensitive to, or affected by, neomycin.

Neomycin treatment was "dramatically effective" in destroying organisms shown by test to be sensitive to it, and in no case in which the disease bacteria were eliminated did they return after treatment was stopped.

Toxic effects were confined to one patient and it was necessary to discontinue treatment. She complained of hearing difficulties and it was found that her kidney function was impaired. Her hearing improved on cessation of treatment; however, the kidney ailment persisted.

Research work at the hospital laboratory already has been successful in isolating 62 organisms of wide variety which are sensitive to neomycin but resistant, or only slightly sensitive, to other antibiotics.

PEDIATRICS

ALBERT M. EDMONDS, M.D., *Editor*, Richmond, Va.

THE DYSENTERIES¹

1. Bacillary Dysentery

THE ONSET is usually sudden gripping pains followed by liquid stools with flakes of bloodstained mucus, in a few hours consisting solely of small quantities of blood-stained mucus. In acute cases symptoms and stools are unmistakable. Diagnosis in such cases rests between bacillary dysentery and acute amoebic dysentery and (rarely) co-existing bac. and amoebic. Final diagnosis must rest on the isolation of the dysentery bacillus.

A bit of mucus placed on a slide, a cover slip is pressed down, and the edges sealed with petroleum jelly. Examination is made with a low-power objective. Number of red blood cells is variable. Over 90 per cent of the other cells are normal-looking pus cells; remaining 10 per cent is large macrophage cells, shed epithelial cells and others less definite. To isolate the causative organism a properly equipped laboratory is essential.

During the acute stages patient kept in bed and on fluid diet. The sulphonamide compounds have a specific action on the dysentery bacillus. British workers still prefer sulphaguanidine because it has no tendency to crystallize out in the kidney tubules. An initial dose of 6 g. followed by 4-hr. doses of 3 g. until the stools are four a day. Thereafter at 8-hr. intervals, further reduced as the condition improves. Within a few hours gripping ceases, diarrhoea becomes much less, patient has a sense of well-being and the appetite quickly returns—well in a few days.

Shiga's bacillus may produce severe toxæmia, unless specific treatment is started early. The toxæmia can be countered by large doses of concentrated antitoxin (100,000 units or more).

Sulphonamides, in doses proportionate to weight, act well in infections of average severity in children and infants. In fulminating cases chlorampheni-

¹ J. S. K. Boyd, in *British Med. Jour.*, June 23rd.

col is preferable; saline transfusions and other symptomatic treatment simultaneously.

2. Amoebic Dysentery

THIS is essentially a subacute or chronic disease of long incubation and an insidious onset; frequently recognized only when an investigation is being made of some more acute intercurrent condition.

Abdominal discomfort, a grumbling pain, flatulence, bowels move four or more times a day. The faeces are usually dark, part semi-solid and part liquid, foul-smelling, containing varying quantities of dark mucus. *Lesions in the appendix may simulate an acute appendicitis—an important point, as appendiceectomy in amoebic infection is strongly contraindicated.* Perforation of an ulcer causes peritonitis. Hepatitis is suggested by a swinging temp., a well-marked leucocytosis, hepatic enlargement and tenderness, radiating pains, and a raised and fixed right diaphragm. Signs and symptoms are in no sense specific. Diagnosis established in one way only—by demonstration of the active trophozoites of *E. histolytica* in the mucus present in the stools or in scrapings from ulcers.

Emetine remains the favoured specific—three to five daily doses of 1 gr. subc., will relieve the symptoms. This should be followed by a 10-day oral course of emetine bismuth iodide (E. B. I.) administered in capsules or enteric-coated tablets. Because of its tendency to produce nausea and vomiting, E. B. I. must be given late in the evening after a sedative. During any form of emetine treatment the patient must be kept in bed because of the toxic action which this drug has on the heart.

Aureomycin and terramycin are amoebicidal as well as bactericidal, but further trials and long periods of follow-up are needed before a definite opinion can be expressed on these drugs.

THYROTOXICOSIS IN THE NEWBORN INFANT

(B. M. Margolis, in *Proc. Royal Soc. Med. (London)*, Aug.)

Boy, aged 10 weeks, normal birth at home. Maturity not known as mother menstruated until eight weeks before delivery. Birth weight 5 lb. 13 oz. Very skinny, eyes seemed prominent. Always difficult over feeds, bottle-fed. Rather lethargic at first. Diarrhoea and vomiting at four weeks and was admitted to hospital.

Mother diagnosed as thyrotoxic year ago but received no specific treatment. One normal sister, 21 months.

Thin, restless infant, 5 lb. 6 1/4 oz. (at four weeks). Blinking infrequent. Palpebral fissure widened, slight proptosis. Thyroid gland not palpable. Skin warm but no excess sweating. Pulse 160-200.

ECG right-axis deviation. Glucose tolerance curve normal. Blood cholesterol—140 mg. per 100 ml. X-rays: Epiphyses normal, chest gave no evidence of retrosternal goitre or thymic enlargement.

Loose green stools 4-8 daily continued for five days, since when stools normal; has gained steadily. Weight at 10 weeks 8 lb. 4 3/4 oz.

Of the disease having onset under the age of one year only six true cases were found in the literature. It seems

that with adequate weight gain and normal heart rhythm and no persistent diarrhoea, no treatment is indicated. It is not clear yet whether the condition of the infant is a passive result of untreated thyrotoxicosis in the mother or is due to active hyperthyroidism.

TWO-YEAR-OLD SWIMS OUT
(*Dallas Times Herald*)

As a deep creek runs by the home of Dr. and Mrs. John G. Brau, Jr., of Dallas, Tex., they taught Junior to swim when he was two years old, and he received a Red Cross certificate for beginner swimmers. This meant that he had to jump into deep water, level off and swim 15 yards, turn about and swim back to the starting point.

While fully dressed on a cold day last fall, Junior accidentally slipped into the creek. No one was around, so he went into the small boy version of the Australian crawl, reached the bank without difficulty, and went home. His only complaint was that he did not like the cold air.

THE G. P.'S ROLE IN ACNE VULGARIS

(Helen Dexter, Cincinnati, in *Jl. A. M. A.*, Mar. 11th)

One hundred patients with acne vulgaris were treated with the object of developing therapeutic approach which could be applied in any office.

Significant aggravating factors were found to be dietary and cosmetic habits; the way a patient customarily leans his face against his hand; emotional tension; a few drugs taken for other conditions, and occupational contact with oil and grease.

Local therapy consisted of day and night applications of a hot lather two times in succession followed by a cold rinse. Resorcinol, sulfur and alcohol in a flesh-tinted, non-greasy base (Acnomel) was applied once or twice a day, depending on the patient's type of skin.

With this treatment the acne was arrested or greatly improve in all cases. The regimen is simple and should encourage the G. P. to begin acne therapy in the early phases of the disease before permanent damage has occurred.

Did you ever see, or even hear, of a case of—

ACUTE ASEPTIC MENINGITIS?

(W. D. Sutliff, M.D., Memphis, in *Wisc. Med. Jour.*, May)

During the past four years the symptom complex, acute aseptic meningitis, has been found to outnumber all other infections of the central nervous system in the internal medicine section of general hospital for veterans.

The onset is acute with fever and signs of meningeal irritation—from slight headaches and nausea, with or without pains in the neck, to full-blown Kernig, Brudzinski, and nuchal rigidity. The c.s. fluid showed w.b.c. to 1,000, nearly all lymphs, and sterile on culture.

BILATERAL LIGATION OF URETERS DURING HYSTERECTOMY
(C. W. Calhoun & J. R. Broun, Pendleton, Ore., in *Northwest Med.*, Nov., 1950)

The authors were asked to see a patient in consultation, July 28th, 1949, some 48 hours following subtotal hysterectomy. She now passes urine four to six times daily through the rectum. Only 12 months have passed and her fate is problematic.

In recent years preventive medicine has become increasingly important in the control and eradication of many diseases.

—*Jour. Tenn. State Med. Assn.*, May.

To know just what has to be done, then to do it, comprises the whole philosophy of practical life—*Osler*.

New Diagnostic Measure

FORMULA SHORT CUT FOR BMR

THOMAS D. CLOYD, M.D., Florence, Alabama

(Written by Laura J. McAdams, Ph.D.)

The accepted method for obtaining the basal metabolic rate by means of any metabolism apparatus is both expensive and time-consuming. Diagnostic procedure is delayed for the physician and the patient, since the minimal heat produced by the patient must be measured from fourteen to eighteen hours after eating and when the patient is at rest and not asleep.

To shorten the lengthy process of measuring the basal metabolism in calories per hour per square meter of body surface, in 1926 I worked out the following formula, based on the blood pressure:

Systolic pressure, minus diastolic pressure, equals pulse pressure, plus pulse rate, minus common denominator (111), equals basal metabolic rate: $SP - DP = PP + PR - CD = 111 = BMR$.

1. The Common Denominator (111) is invariable. It was determined from the mean of 282 basal metabolic rates run in 1926. Hence, it will take care of the many things which, besides pulse pressure and pulse rate, must be considered as affecting the metabolic rate.

If the sum of the pulse pressure plus the pulse rate is greater than the common denominator, the basal metabolic rate will be plus:

$$124 (SP) - 72 (DP) = 52 (PP) + 80 (PR) = 132 - 111 (CD) = +21 (BMR).$$

Furthermore, if the sum of the pulse pressure plus the pulse rate is less than the common denominator, the basal metabolic rate will be minus:

$$100 (SP) - 72 (DP) = 28 (PP) + 70 (PR) = 98 - 111 (CD) = -13 (BMR).$$

Comment

In a resumé of 282 cases in 1926, I ran the BMR and compared the results with those obtained by using the formula. In this statistical survey, the formula proved 92 per cent accurate. Hence, over a period of twenty-four years since 1926, I have successfully used this formula during routine office examinations to determine a patient's basal metabolic rate.

Summary

A patient's basal metabolic rate may be obtained by using the following formula:

Systolic pressure minus diastolic pressure equals pulse pressure plus pulse rate minus common denominator (111) equals basal metabolic rate:

$$SP - DP = PP + PR - CD = 111 = BMR.$$

HYPOGLYCEMIA HEADACHES occur in patients with flat glucose tolerance curves and are often relieved by dietary measures.

—A. T. Hurst, in *Jour. Ky. Med. Assn.*, June.

IN CASES OF HEADACHE one may find patches of fibro-*itis* in the muscles of the scalp or nuchal region, and in rare cases discover a patch of arteritis nodosa.

—B. H. Hollis, in *Jour. Ky. Med. Assn.*, June.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

THE COMMONEST MENTAL DISEASE

SINCE schizophrenia is far the commonest form of grave mental disease, and seems to be engrafted upon a seclusive, introverted type of personality, the first attempt at prevention should be to "socialize" the individual. Parents and teachers have the largest opportunities in this modification of the personality. Companionship among both sexes should be encouraged, outdoor and indoor athletics and other kinds of socializing influences made available to all children, especially to those with "schizoid" tendencies.

Though most cases of schizophrenia manifest themselves between 18 and 25, a few cases have been discovered at six, a few at 60. Parents and teachers should supply adequate sex knowledge, since many cases arise from sexual difficulties. Parents must not keep the child held to their apron strings, but must encourage the development of independent thought and acting in the child. Parents should also look well into their children's reading matter, discouraging the lurid type of books and periodicals. Teachers and parents should point the child to the powerful effects of religion, which affords the best sort of anchor for the individual's efforts toward reality.

Treatment.—No opportunities should be allowed for day-dreaming; even during his bath the schizophrenic should be distracted. Appropriate occupational therapy should be prescribed. The patient should spend a minimum of time inside his room; constant efforts at socialization should be carried out. When a sedative is necessary, veronal, hyscine or sodium amytal are effective. Insulin-coma therapy offers best hope for cure. Next in effectiveness is the induction of convulsions through the use of chemicals or electricity. Combined electro-coma and insulin-coma therapy are widely used and appear to produce gratifying results. For schizophrenia characterized by states of excitement, prolonged narcosis, through the use of barbiturate drugs, is effective.

A last resort is prefrontal leucotomy. In periodic catatonia, thyroxin is known to abolish the cycle of schizophrenia. Large doses of thyroid bring about increase in energy and interest when the patient appears dull and inert following his insulin-coma treatment. Early in 1950 the New York State Psychiatric Institute announced the use of ether intravenously on psychotic patients, including schizophrenics, and compared its initial results favorably with those of ECT (electro-coma therapy).

Psychotherapy is another upon which great stress

must be placed. The psychiatrist must gain an understanding of his patient as an individual, and of the causes bringing about the disorganization of his personality. The prime object will be to assist the patient to regain a sufficiently secure personality organization. The physician will then strive to bring the patient to recognize the faulty factors in his environment which have causal relationship to his maladjustment. Toward more definite decision and action, more logical thinking and habit formation, toward better group adjustment and the cultivation of wholesome attitudes of living, the physician will strive to lead his patient. To a description of the patient's needs, desires, aptitudes, shortcomings and wishes, the physician must needs listen with rapt, sympathetic attention.

During and after active treatment, a good program of occupational therapy will help direct the patient's mind into healthy channels, to work toward a goal, and finish a task. Outdoor recreation and physical labor, reading (though not abstruse matter), handicrafts, music, games, shows and other features that stress the socializing aspect, all are in order, suited to the individual case.

Anger outbursts or temper tantrums might be "smoothed out" through efforts at reeducation; or if this is not effective, through hydrotherapy or amytal intramuscularly.

Psychoanalysis, it is agreed, if it is to be employed in the treatment of schizophrenia, must be employed in a modified form. Oscar Diethelm states that it is advisable to space the treatment and inject periods of analytic rest. He believes that analysis should be active and should include an adjustment of the patient's routine.

EARLY CARE IN CASES OF TRAUMATIC WOUNDS OF THE FACE

(C. E. Gurney et al., Portland, in *Northwest Medicine*, Feb.)

Care of the patient as a whole:

Stop all bleeding.

Examine for other injuries.

Prevent shock if possible; treat shock if already present.

Delay transfer until transfer is safe.

Give penicillin; tetanus antitoxin or toxoid is contaminated wounds.

Care of the wound:

Local anesthesia or intratracheal, if a general anesthesia is needed.

Cleanse the wound gently with mild solutions. Hydrogen peroxide and saline are excellent.

Be certain that all road dirt or pigment which might be ground into the skin is completely removed as part of initial care.

Exercise extreme care in removing devitalized tissue.

Initial care should not include complicated plastic procedures. The simpler the closure the better.

Close wound accurately in layers without tension.

Apply a pressure dressing.

Remove sutures early.

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THE HUMANITY OF SIR THOMAS BROWNE

IN SIR THOMAS BROWNE, Osler found a good and true friend with a "deep human interest in human beings." *Religio Medici*, he stated quite simply, "is the most precious book in my library."

Sir William Osler did not indulge in extravagant expression. Like most cultured Englishmen, he understated. So every doctor with any pretension to culture will wish to know what manner of man and doctor was he, who wrote the most precious book in Osler's magnificent library.

In his longest book, *Enquiries into Vulgar Errors*, Browne made a large-scale examination of popular beliefs: yet himself, believed in witchcraft.

In 1667 he asked his son to try at Calais to "get a box of the Jesuits powder at easie rate & bring it back in the bark, not in powder." In a reply to an inquiry about the efficacy of quinine he stated that he had seen no bad effects from its use, though it "doth not so much good as I could wish." He scoffed at physicians who diagnose all ailments by examining urine. He was doubtful about blood-letting, and surmised that it must be less valuable than purging. Of the use of antimony he was skeptical, and proposed that "an exact and critical trial" be demanded by the public.

His letters to his son Edward practicing in London reveal him as a wise practitioner who knew much of psychotherapy, combined patience with shrewd common sense, and had genuine concern for those in his care. For one patient he described the treatment successfully given another, with the cautious reservation: "Butt there is a great disparity in your constitutions, and purging medicine bee used will not bee proper for you."

He writes Edward of a Mrs. Suckling, who is complaining of a "vehement paine in the legge" and is coming to London to consult a surgeon about an ulcer in her nose. "I had no reason to conjecture," he explains, that there was anything suggesting syphilis, "shee beeing a vertuous good woeman." "Shee is likely to bee in great perplexity if you should positively tell her" "Pray have a speciall care of her for shee is a very good person."

Also to consult Edward is "Mr. Alderman Wisse": "a meticulous doubting man of a good nature seldom without thoughts to perplex himself & making his life the more uncomfortable I am fayne to compose him sometimes by good counsell and rationall argument; the truth is hee is a very honest inoffensive person & his owne foe most."

¹ J. S. Finch, Asst. Dean, Princeton Univ., in *Bul. N. Y. Acad. of Med.*, Aug.

Of a Mr. Hasset, Sir Thomas cautions: "Hee intendeth to marry, and hath settled affection upon a good gentlewoeman. . . . I would have you to vewe the penis diligently for hee is very Jealous and apt to bee meticulous, and is hypochondrical."

"Mr. Payne of St. Gyles" is to come to London. "You must have good patience, for hee abounds in questions & doubts, & is soone discouraged & apt to laye hold of any words & to argue agaynst himself or any remedies."

He advises Edward, "have a great care of your health which may bee by Temperance and sobrietie and a good competence of sleepe. Take heed that Tobacco gayne not too much upon you."

In the human skull "there is not any thing of moment more," he observed, "than I can discover in the crany of a beast thus we are men, and we know not how." Yet he never permitted his "haggard and unreclaimed reason" to lure him down the path to utter materialism.

Browne amused himself with predictions and foretold the end of the slave trade, the rise of America to world dominance, trade in the Pacific, American armies in Europe, and even the subjugation of China by "a new drove of Tartars." In another place he proposed the digging of the Panama Canal.

Sir Thomas Browne managed his own daily responsibilities with good sense and practicality, yet felt God's nearness to every act of daily life and believed that "surely there is a piece of Divinity in us." To the logical minds of the 18th century, such a man did not appeal. But in the next century, and in our own, the warm humanity of Sir Thomas Browne has been rediscovered. A famous conversation has been recorded, in which someone asked Charles Lamb what men in history he would most wish to have seen: On the question being started, Ayrton said, "I suppose the two first persons you would choose to see would be the two greatest names in English literature, Sir Isaac Newton and Mr. Locke?" "Yes, the greatest names; but they were not persons—not persons." Lamb then named Sir Thomas Browne and Fulke Greville, the friend of Sir Philip Sidney, as the two he should feel the greatest pleasure to encounter on the floor of his apartment in their nightgowns and slippers, and to exchange friendly greetings with them.

Browne once wrote in his notebooks: "I cannot fancy unto myself a more acceptable representation or state of things than if I could see all my best friends, and worthy acquaintance of fortie yeaeres last past, upon the stage of the world at one time."

To Sir William Osler's prime favorite of Sir Thomas Browne's *Religio Medici*, I would add Dr.

Cyrus Thompson's prime favorite of *The Essaies of Michel de Montaigne*.

What a pair of choices! And what a pair of choosers!

HORMONE COMBINATIONS IN AGING MEN

SENSIBLE MEN, as they grow older, are content to let nature take its course; in general, though they want to prolong working ability, endurance, power to concentrate, general vitality. All want to continue the enjoyments of life as long as possible. Many men in their late maturity are particularly eager to preserve or increase their sexual potency (although few admit such interest). Happier and healthier birthdays, not just more birthdays, should be our objective. Aging, being partly dependent on endocrine functions, is somewhat amenable to therapeutic efforts.

Benjamin's¹ experience leads him to conclude that a greater number of productive, comfortable and enjoyable years can be added by endocrine therapy, if combined with psychological guidance, dietary advice, vitamin and mineral medication, and general hygienic (including sexual) instruction.

The theme is elaborated in an article well worth our consideration.

It is inexact to speak of "male" and "female" hormones, as both occur regularly in both sexes. The gonadal hormones exert manifold effects on non-sexual organs although their general affinity to their particular sex organs is unmistakable. In this series of cases, estrogen was added to testosterone in the treatment of the aging man with reasonably normal circulation, also the man with hypertension. Another reason for adding estrogen to testosterone concerns the prostate. Androgen medication is contraindicated in the presence of a prostatic cancer as it may accelerate its growth.

Instead, estrogen is the medication of choice. The cancer, however, may be sub-clinical. In such cases the added estrogen may well act as a safety measure. Whenever the patient had a more or less distinct hypotension and fatigue the synthetic cortical extract seemed a logical addition.

A total of 45 men were treated with combined steroid hormone injections, aver. age 60.

Found most useful in the male was testosterone propionate 10 to 20 mg., with estradiol benzoate 0.08 mg., 2 to 3 times weekly for 4 to 6 weeks—a course to be repeated yearly or twice yearly. Progesterone could possibly replace estrogen with equal advantage. The dose would be 5 to 6 mg. added to 10 to 20 mg. testosterone propionate.

In adrenal insufficiency with hypotension, to testosterone propionate add 2.5 mg. desoxycorticosterone to each injection. Oreton M tablets (Me-

¹ Harry Benjamin, M.D., New York, in *Journal of Insurance Medicine*, Vol. VI, No. 1, 1951.

thytestosterone) 10 mg. or 25 mg. daily were usually given for two to three weeks as "follow-up" treatment.

The term *gerontotherapy* stands for the treatment of the aging process as such. Endocrinology offers the most promising therapeutic approach, relying chiefly on the steroid sex hormones. An addition of estrogen, progesterone or desoxycorticosterone to testosterone propionate appears more effective than testosterone alone. Such combinations allow greater individualization of treatment, especially if vitamin deficiencies are corrected at the same time. Whenever required, the treatment of diseases (geriatrics) must supplement gerontotherapy.

The results of 45 courses of combination injections are reported. In 5 additional cases both courses were given: combination injections and testosterone propionate alone. The results were either good or excellent in 87 per cent. A definite improvement of sexual functions was noted in 67 per cent.

The most useful combination for endocrine gerontotherapy in the male, applicable to uncomplicated or hypertensive cases, is 10 to 20 mg. testosterone propionate (Oreton) with 0.08 mg. estradiol benzoate (Progynon), given 3 times weekly for 6 weeks.

Freudism Not Accepted as Psychiatric Gospel By LATINS AND TEUTONS

Quite the reverse of the common assumption, the Latins are the most hard-headed, the least gullible of mankind. It is a great pleasure to have new proof of this fact in an article by an eminent Roman teacher and practitioner of psychiatry.¹

Freud and his followers claimed they had discovered a "truth" on whose tracks it was necessary to rebuild etiopathogenesis and nosography. But a great number of scholars in this field—among them Kraepelin, Aschaffenburg, Bumke, Kinberg, MorSELLi, Tanzi and Lugaro, Murri, Claude, Baruk, Blondel, Purves-Stuart, Johnson—discussed and rejected it by means of theoretical and practical argumentations. Faced by the "mystic" attitude of neophytes of these new doctrines, these and many other authorities in the field of neuropsychiatry abandoned all discussions and followed their own trend, which we shall call "classic," inasmuch as it reconnects itself with the origins of modern psychiatry. We have therefore a "psychoanalytic" trend which is at the basis of the majority of studies and classifications published in English, and a "classic" trend employed above all in German-speaking and Latin countries.

According to psychoanalysts, psychism follows

1. Lucio Bini, Docent of the Neuropsychiatric Clinic, University of Rome, in *Scientia Medica*, Vol. 1, No. 2.

particular laws and mechanisms, rich in symbolic meanings. It possesses, above all, an immense energy in fashioning personalities, and whose effects may last for a lifetime; even if, in some cases, it appeared in the earliest infancy, or straightforward in fetal life: i.e., it must employ interpretative psychology.

"Classic doctrine" acknowledges that it still ignores the essence of etiologic mechanisms. If it ascribes a decisive value—in this field—to constitutional data, it is because it sees in them an undoubted value of clinical experience, though certainly not clear in details. And it ends with Murri's saying: "Better ignore honestly than draw conclusions, feigning a learning which does not exist."

Attempts to conciliate these two trends, now extolled by "psychosomatic medicine," either limit themselves to casting light on certain coefficients of detail and then teach nothing new to a sound "classic" clinical trend; or they want to blend intimately the two trends which they fully accept in their capacity to act in a pathogenic sense, both separately and as a more or less permanent "joint cause." They then fall into the mistake made by psychoanalytic faith, adding to it also the mistake of considering important some data of the "classic" theory, beyond their objective meaning.

Psychiatry having a psychoanalytic trend has never been officially taught in Italy; neither are there diplomas or schools for a specialization in psychoanalysis.

Doubtless, in minds capable of absorbing it, an education founded on absolute "faith" may have the best powers of compensation and consolation for the neophyte, also due to the prophet's enthusiasm and firmness of purpose. This justifies the best results which can be obtained in single cases by a psychoanalytical therapy. It would be a mistake and contrary to all experience, to generalize this datum with regard to all psychoneurotics and sanction it through theoretical rules. In a scientific sense, as in all educational trends, psychotherapeutic technique must be freely variable and without prejudices of "faith," keeping in mind that the most important therapeutic agent consists in the sensibility and in the psychological ability of the psychotherapist. No clear-minded person can but express the doubt that the most brilliant results should be considered as a coincidence, of the return to normal functioning of the biological radical of the disease, which, in our opinion, is the true nature of the latter.

Just to find the word datum (singular of data) is ample reward for reading Dr. Bini's article. It has been many a long day since I saw or heard, from medical or other men, "These data"; always it is "this data"—and pronounced dat-ta!

But it is far more rewarding to learn that among the Latins and the Teutons there is general wonder whether Sigmund Freud deludes himself along with others, or, after the example of the Veiled Prophet of Khorassan, he jeers, "Ye would be dupes and victims and ye are."

OBESITY—DIAGNOSIS AND TREATMENT

A CHICAGO doctor¹ discusses with rare good sense the subject of excess fat.

Unless children are greatly overweight or tall for their age, they do not need to lose much weight. If they cease gaining, their increase in height will soon result in normal weight for height. Direct that they refrain from pie, cake, ice cream, candy and soft drinks. Their intake of bread, butter, potatoes and gravies should be *mildly* restricted. All obese children should have thyroid, gradually increasing until that dose is reached which causes tremor, tachycardia, nervousness or insomnia. The dose should then be decreased by 25 per cent and continued for some months.

It is seldom necessary to give appetite-depressing drugs or hypodermic medication until after the age of 10. Examine urine for sugar q. 90 days.

For boys with hypogonadism, after the age of 10 or 12, give some gonadotropin, e.g., antuitrin-s, 150 to 250 units twice weekly. With this give posterior lobe extracts in doses just short of causing faintness, nausea or intestinal cramps. Most will tolerate 5 min. of the obstetrical preparation. If the genitalia do not respond promptly, give testosterone propionate for alternate months with preceding, 10 mg. twice weekly.

As normal weight is approached, reduce medication. The child should be seen every month.

In cases of adults, try to find out the sequence of events that preceded the gain. Lab. work should include blood count, 24-hr. urine, b.m.r. Where feasible glucose or insulin tol. test. Whether the obese person eats more or less than his thin friend is a matter of academic interest. If he expects to lose weight he will have to eat less than he is at present. Most of us with good appetites eat much more than we need; some device within enables us to dispose of the excess with little if any gain in weight.

Diet must be adequate as to protein, vitamins and minerals—one gram of protein per kilo. of body weight; use vitamin preparations rather freely. Diet as bulky as can be managed. Attempt to cause loss of one or two pounds per week. A 1400-calorie diet (C. 135, P. 80, F. 60 Gm.), patients find no great hardship and most will follow it reasonably well. Reduce the fluid intake and sodium chloride. Some patients have a low serum calcium; give these once or twice weekly 1 c.c. parathyroid ext.

1. J. H. Hutton, M.D., in *Illinois Med. J.*, May.

Thyroid does no harm, if frequent repetitions of the B.M.R. One can usually control the dosage by clinical observation.

Many obese women are victims of hypopituitarism. These should be given a crude anterior-lobe pituitary extract (P. D. & Co.) originally marketed as "Antuitrin." Physicians apply directly to the home office for it. Dose 0.5 to 1.00 c.c. once or twice weekly. Posterior lobe extract is given just short of faintness, nausea or intestinal cramps. The two extracts are given in the same syringe at the same time. Sugar reaction to these extracts is tested; if there is an undue rise the extracts are not used in treatment.

In women with hypopituitarism, pituitary extracts give more relief than any other measure. They feel so much better following injections that many continue the injections even when they make no effort to adhere to the diet.

Benzedrine (or dexedrine) sulfate dulls the appetite and makes the patient feel better generally; give 5 to 10 mg. twice daily.

After the desired amount of weight loss has persisted for some time, the body seems to adjust itself to this new weight, and the diet may be less restricted without gain in weight.

OUR HAT'S OFF TO THE MASSACHUSETTS MEDICAL SOCIETY AND ITS EXECUTIVE SECRETARY

A Letter to the Editor, *New England Journal of Medicine*, July 19th, proclaims the most remarkable success in collecting portraits of notables.

Here is the letter: For some years I have regretted that the Massachusetts Medical Society had no pictures of its past presidents. Accordingly, last fall, when it became evident that we were to have a headquarters building of our own with a place to display these portraits, I embarked on a search for them.

Beginning with Edward Augustus Holyoke of Salem, the first president, who was elected in 1782, and including the present incumbent, 69 physicians have held that office. I hoped that portraits of half this number might be obtained to start a collection that could be carried on for the future.

My greatest hopes, however, have been exceeded, and I now have pictures of 68 of the 69 past presidents. The missing one is Dr. William Kneeland of Cambridge, who was born in 1742 and died in 1788, at the age of 46. He was the second president—from 1784 to 1786. Since Burrough's *History of the Massachusetts Medical Society* says of Dr. Kneeland that "he never attended a meeting of the Society while president," perhaps we shall have to continue without his presence.

Executive Secretary, Massachusetts Medical Society, Boston.

We in North Carolina could not find portraits of 25 per cent of our presidents if our lives depended on it. And all of us will enjoy getting to know about President Kneeland.

ROBERT ST. B. BOYD,

EPILEPSY which makes its first appearance after the age of 18 should be considered as due to a lesion in the encephalon.

NEWS

UNIVERSITY OF NORTH CAROLINA SCHOOL OF MEDICINE

Dr. Charles Hoyt Burnett, Professor and Chairman of the Department of Internal Medicine, Southwestern Medical School of the University of Texas, has accepted appointment as Professor and Head of the Department of Medicine, and will take up his duties in Chapel Hill in September. Dr. Burnett is a native of Boulder, Colorado, and took his undergraduate and medical training at the University of Colorado. Before going to the University of Texas he had been a member of the Staff of the Presbyterian Hospital in New York, and the Massachusetts General Hospital; and, successively, instructor through associate professor in the Department of Medicine at the Boston University School of Medicine. Dr. Burnett is a member of the Society for Clinical Investigation, the Association for the Study of Internal Secretions, the New York Academy of Science, the Southern Society for Clinical Research, and the American Federation for Clinical Research.

Dr. William James Cromartie, Associate Professor of Bacteriology and Medicine at the University of Minnesota, has been appointed Associate Professor in Bacteriology and Director of the Bacteriological Laboratory in the University Hospital. Dr. Cromartie, a native of Garland, North Carolina, took his medical training at Emory University; he is a Diplomat of the American Board of Pathology and of the American Board of Internal Medicine.

Dr. Charles Bruce Taylor will come to Chapel Hill in September as Associate Professor of Pathology. He has held teaching appointments at the University of Minnesota and at the University of Illinois, and for the past several years has been Associate Attending Pathologist at the Presbyterian Hospital in Chicago.

Dr. Basil Lionel Truscott has been appointed Assistant Professor in Anatomy. Dr. Truscott received his Ph.D. and M.D. degrees from Yale University, and has held teaching appointments at the Georgetown University Medical School and at Yale University.

DUKE UNIVERSITY MEDICAL SCHOOL

A memorial plaque in honor of the four alumni of the Duke University Medical School who died in service during World War II has just been placed in the main lobby of Duke Hospital. Several hundred Duke medical school alumni contributed to purchase the bronze tablet. Alumni whose names are inscribed are Walter E. Brown, '39; William W. Green, III, '44; John F. Kincaid, Jr., '42; and Robert E. Seibels, Jr., '44.

Four Duke University scientists—Dr. Joseph W. Beard, professor of surgery in charge of experimental surgery; and Mrs. Dorothy Beard, Dr. Edward A. Eckert and Mrs. Elizabeth Mommaerts, all research associates—have been invited to take part in the Gordon Research Conferences on Cancer at New London, N. H., August 27th-31st.

Approximately 100 scientists from over the United States have been invited to the meetings, which are sponsored by the American Association for the Advancement of Science.

Dr. Charles H. Sawyer, professor of anatomy at the Duke University Medical School and a member of the Duke faculty since 1944, will become professor of anatomy at the new medical school of the University of California at Los Angeles, assuming his new duties at the beginning of the Fall semester.

Before joining the Duke staff as an associate in anatomy in 1944, Dr. Sawyer had taught at Middlebury College, and at Yale and Stanford universities.

A member of the American Association of Anatomists,

the American Society of Zoologists and other top scientific and academic societies, Dr. Sawyer has been a member of the Duke anatomy research team investigating endocrine phenomena since he joined the staff.

He received his A.B. degree from Middlebury College, Ph.D. from Yale and studied at Cambridge University in England. He is a native of Ludlow, Vt.

The CARTERET COUNTY MEDICAL SOCIETY held its regular monthly meeting at the Morehead City Hospital Monday evening, August 13th, a dinner meeting, the hospital acting as host.

Mr. Clark Williams, a trained Venereal Disease Investigator, who has just been assigned to Carteret County by the P. H. S. on part-time basis, said that he was at the service of the private physicians upon request, to interview VD patients and to do follow-up work, with the object of having patients persist in their treatment. Mr. Williams, who serves also at Camp Lejeune and Cherry Point, said that a recent study at Camp Lejeune showed there a VD rate higher than at any other base in the continental United States, and therefore, the government is doing intensive control work in this area.

Dr. M. B. Morey, Secretary, read a letter from the Grievance Committee of the Medical Society of the State of North Carolina urging that all physicians be more prompt in reporting births and deaths.

The Society discussed the necessity for making available emergency medical and surgical services for Sundays. A plan was adopted which will make available such services through the Morehead City Hospital.

Dr. C. S. Maxwell, president, presided.

N. THOMAS ENNETT, M.D., *Cor. Sec.*

WILLIAM SINCLAIR STEWART, IV, M.D., announces the opening of offices in Suite 4D, Doctors' Building, 1012 Kings Drive, Charlotte, N. C., for the practice of Orthopaedic and Traumatic Surgery.

DR. WILLIAM F. LOVELL announces the opening of offices for the practice of Allergy at 212 N. Torrence, Charlotte, N. C.

DIED

Dr. Thomas E. Knight, Farmville, Virginia, died August 16th following a short illness. Dr. Knight was a graduate of the Medical College of Virginia in the class of 1929. He had been in practice in Farmville since 1930 except for the period of service with the Army Medical Corps in World War II.

DR. MARSHALL T. VADEN, 64, of Buena Vista, Va., physician and surgeon for the C. & O. Railway and at Southern Seminary for a number of years, died at a Lexington hospital August 8th, after more than a year of ill health. Dr. Vaden was a native of Gretna, Va., and a graduate of the Medical College of Virginia in the class of 1915.

DR. WILLIAM BRADFORD NEWCOMB, 65, died at his home at Virginia Beach, August 1st, of a heart attack. Dr. Newcomb, a graduate of Johns Hopkins Medical School, had practiced as an internist in Norfolk since 1913. He had served as president of the Norfolk County Medical Society and the Medical Society of Virginia, and had held high offices in the American Medical Association.

DR. W. S. WHITMORE, 77, physician and surgeon in Staunton and Augusta County, Virginia, for nearly 50 years, died July 31st at his office while treating a patient. Dr. Whitmore was a graduate in medicine of the University of Virginia in the class of 1901.

BOOKS

THE MANAGEMENT OF FRACTURES, DISLOCATIONS, AND SPRAINS, by JOHN ALBERT KEY, B.S., M.D., St. Louis, Clinical Professor of Orthopedic Surgery, Washington University School of Medicine; and H. EARLE CONWELL, M.D., F.A.C.S., Birmingham, Ala., Associate Professor of Orthopaedic Surgery, University of Alabama School of Medicine. Fifth edition. *The C. V. Mosby Company*, 3207 Washington Boulevard, St. Louis, Mo. 1951. \$16.00.

The purpose of this book, as expressed in the first edition, 17 years ago, "to furnish a practical working guide in the management of fractures, dislocations and sprains," has been kept steadily in mind all along through subsequent editions, and is conspicuous in this, the fifth, edition. The dealing with fracture equipment, plaster-of-paris technic, factors tending to cause nonunion, the various methods of effecting reduction, first aid in fractures and automobile injuries, and the attention given to lowly sprains—all these attract special and favorable attention. The whole subject of fractures, dislocations and sprains—which makes up a large share of most general medicine and most general surgery—is covered admirably.

METABOLIC METHODS: Clinical Procedures in the Study of Metabolic Functions, by C. FRANK CONSOLAZIO, Chief of Biochemistry, U. S. Army Medical Nutrition Laboratory, Chicago; ROBERT E. JOHNSON, M.D., D. Phil. (Oxford), Professor and Head of the Department of Physiology, University of Illinois, Urbana, Ill.; and EVELYN MAREK, M.A., Biochemist, United States Army Medical Nutrition Laboratory, Chicago. Illustrated. *The C. V. Mosby Company*, 3207 Washington Boulevard, St. Louis 3, Mo. 1951. \$6.75.

This book is written to present in detail methods of proved usefulness over 15 years of research in various aspects of metabolism, particularly metabolism of the human in health and disease. There are sections on collection and storage of specimens, instrumentation, biochemical procedures, microbiological procedures, physiological measurements, studies in the field, technic for metabolic wards, clinical laboratory procedures and statistical methods. In a final chapter miscellaneous data are presented.

The ample text is supplemented wherever needed by drawings and other illustrations which make for lucid presentation.

REVIEW OF PHYSIOLOGICAL CHEMISTRY, by HAROLD A. HARPER, Ph.D., Professor of Biology (Biochemistry), University of San Francisco, etc. Third edition. *University Medical Pubs.*, P. O. Box 761, Palo Alto, Calif. 1951. \$3.50.

Here we have presented the fundamentals of physiological chemistry in a book which the author says is intended as a supplement to a standard text. A cursory review gives the impression that all of

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established fact in this field that is useful in the practice of medicine is included in the volume.

CLINICAL AND ROENTGENOLOGIC EVALUATION OF THE PELVIS IN OBSTETRICS, by HOWARD G. MOLOV, M.D., M.Sc., Assistant Clinical Professor of Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University and The Sloane Hospital for Women. 119 pages, 68 figures. *W. B. Saunders Company*, Philadelphia and London. 1951. \$2.50.

This book is one of the fruits of investigations begun by the author and the late Dr. William Caldwell 18 years ago. The accumulation of data has been synthesized in the form of the recognition of four fundamental types of pelvis. Developmental factors, as opposed to pathologic factors, are emphasized as accounting for variations in pelvic anatomy important to the obstetrical patient and attendant. It is said that available methods of x-ray pelvimetry will allow the student of obstetrics to begin at a point in his knowledge of disproportion from which he can devote his energies to better understanding of the mechanics and physiology of labor.

MARK MY WORDS: A Guide to Modern Usage and Expression, by JOHN BAKER OPDYCKE. *Harper & Brothers*, New York 16, N. Y. \$5.00.

This book shows by example the precise shade of meaning of some 10,000 words. It is a much needed book, for it is unlikely that there was ever a time, since the invention of printing, that the word that will *almost* do was so generally employed. That wonderful book of Ian Maclaren's, "Beside the Bonnie Briarbush," is unknown to the ninety-and-nine, and would be unappreciated by this proportion were it introduced to them. I can show my appreciation of Opdycke's book in no better way than to quote from Maclaren's book, "the ability to express oneself with accuracy is one of the luxuries of life," adding the statement that Opdycke's book, freely used, will bring this luxury within the grasp of any literate person.

PROGRESS IN NEUROLOGY AND PSYCHIATRY. An Annual Review, Vol. VI, edited by E. A. SPIGEL, M.D., Professor and Head of the Department of Experimental Neurology, Temple University School of Medicine, Philadelphia. *Grune & Stratton*, 381 Fourth Ave., New York 16, N. Y. 1951. \$10.00.

Of the volume one-third of the space is allotted to clinical neurology, one-third to clinical psychiatry, one-fifth to basic sciences, and the remainder to neurosurgery. These reviews take into consideration the needs of general practitioners as well as those of specialists and research workers. The hope is expressed that in these five years the ultimate goal of this series, the development of an always up-to-date encyclopedia of neurology and psychiatry has been approached.

A too-brief scanning of the contents leads the re-

viewer to believe that excellent judgment has been used in the choice of matter to be included.

TREATISE ON SURGICAL INFECTIONS, by FRANK LAMONT MELENEY, M.D., Associate Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University. *Oxford University Press*, New York. 1948. \$10.00.

The author tells us that this book has been in preparation for 20 years. Over many years the infections developing in clean operative wounds served as a basis for an understanding of the various factors' roles in operating-room technique. Routine aerobic and anaerobic cultures in all surgical infections revealed how often anaerobic organisms play a role in these diseases. As early as 1935 many chapters were completed. Then came the sulfa drugs, changing the aspect of the subject of surgical infections. During the last five years antibacterial therapy with the antibiotics has again revolutionized much of the first importance as to surgical infections.

There are excellent chapters on the historical aspect, surgical infections and their classifications, sterile technique and sterilization, antisepsis, the infections in clean wounds, ditto in accidental wounds, organization of a bacteriological service, bacteria that produce surgical infection and their behavior, bacterial synergisms and antagonisms, the defense of the human body against bacterial infection, and the treatment of surgical infections.

It is a monumental and encyclopedic work without padding, which sets forth the subject of surgical infections in an attractive and authoritative way.

PROCEEDINGS OF THE THIRD INTERNATIONAL CONGRESS OF THE INTERNATIONAL SOCIETY OF HEMATOLOGY, Cambridge, England, August 21st-25th, 1950. CARL V. MOORE, Editor-in-Chief. *Grune & Stratton*, 381 Fourth Ave., New York 16, N. Y. Paper \$8.00; Cloth, \$10.00.

The Proceedings are under sections as follows:

- I. Anemias and Related Subjects
- II. Immunohematology
- III. Leukemia and Related Diseases
- IV. Coagulation, Purpura and Related Subjects
- V. Miscellaneous Papers

The editorial committee includes members from the United Kingdom, France, Italy and Switzerland.

The International Society of Hematology was conceived as a means of providing free interchange of information by all workers interested in the subject of hematology. At this Congress much attention was devoted to vitamin B₁₂, the relationship between gastric carcinoma and pernicious anemia, the anemias of the tropics and the orient, the maturation of erythroblasts, permeability and lysis of immature red blood cells, a new theory of splenic

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marrow inhibition, researches on agglutination, survival of the transfused red blood cells, the Rh factor, blood grouping in disputed parentage. Of particular interest are the contributions on The Nature of Leukemia, The Spontaneous and Provoked Remission in Acute Leukemia, Effects of ACTH in Human Leukemia, and several papers on Urethane, including a report of 25 cases of multiple myeloma treated with urethane.

The whole subject of coagulation and related matters is elaborately covered, and the title Further Studies on Factors Influencing Recovery from Radiation Injury attracts attention among the miscellaneous papers.

Every hematologist, every internist, indeed every physician will find much here to interest him and to make him more useful to his patients.

OPERATIVE SURGERY, Edited by SIR LANCELOT BARRINGTON-WARD, K.C.V.O., Ch.M., F.R.C.S. (Edin.), F.R.C.S. (Eng.), Surgeon to H. M. King Edward VI, etc. Second edition, with 498 illustrations. *Grune & Stratton*, 381 Fourth Avenue, New York 16, N. Y. 1951. \$13.50.

In the first edition it was aptly stated that operative surgery today is far too vast a subject to be mastered by any one man and that even the most versatile surgeon soon comes to follow certain special surgical paths. The first volume, the work of many hands, represented as far as possible the practice of the Royal Northern Group of Hospitals, each contributor responsible for his own subject, and the contributions each subjected to collective criticism and correction with a view to making the whole a balanced account of surgery.

The plan for the first edition has been carefully followed in the second. The book represents the practice and teaching of men of wide experience and great distinction for their accomplishments in different branches of surgery working in close harmony in one hospital group.

The whole subject of operative surgery — of mouth and jaws, neurosurgery, plastic surgery, genitourinary surgery, abdominal surgery, gynecology—all of it, excellently done, is embraced in the one volume. The ample text, supplemented by a profusion of pictures, makes this book one of rare practical usefulness.

NEW AND NONOFFICIAL REMEDIES: Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1st, 1951. Issued Under the Direction and Supervision of The Council on Pharmacy and Chemistry, American Medical Association. *J. B. Lippincott Co.*, E. Washington Square, Philadelphia. 1951.

Seven hundred and fifty pages of reliable, unprejudiced information on remedial agents are put at the command of the physician.

DIAGNOSIS OF AORTIC STENOSIS

(Davis Lewes, in *British Medical Journal*, Feb. 3d.)

A loud harsh systolic murmur in the second right intercostal space, conducted into the neck, is the commonest clinical sign. Appraisal of this murmur led to a correct diagnosis in four cases without a systolic thrill. Often the s. murmur of aortic stenosis is audible over a wide area, commonly loudest in the mitral area, to which it may occasionally be confined.

Aortic diastolic murmurs may be anticipated in half the cases of aortic stenosis.

In 25 proved cases of isolated calcareous aortic stenosis, heart failure and infective endocarditis were the commonest causes of death.

A correct clinical diagnosis was made in just over half of the cases. On the basis of the classical signs of a slowly rising pulse, an aortic s. murmur and thrill, and an absent second sound, less than one-sixth of the cases would have been recognized clinically.

A more careful evaluation of harsh aortic systolic murmurs, and demonstration by fluoroscopy of grossly calcified aortic valves, could have settled the diagnosis in some cases; in others a closer study of the natural history of the disease after the onset of symptoms should have directed attention to the valvular lesion.

USE OF THE WINTROBE HEMOGLOBIN TUBE IN THE OFFICE EXAMINATION

(J. W. Kyle & S. G. Richmond, Memphis, in *Jl. Tenn. Med. Assn.*, Feb.)

The tests performed with the Wintrobe tube, combined with examination of the blood smear, urinalysis, serologic test for syphilis and photofluorogram of the chest, make a good system to supplement the history and physical examination for the routine examination of the patients.

Red and white cell counts and hemoglobin determinations should be used only in case of: significant abnormalities in the hematocrit, buffy coat or smear, differential diagnosis of fevers and infections of myocardial infarction and angina pectoris (white cell count); in the typing of anemias (reds) and hgb. to be used with hematocrit. In suspected thrombocytopenia platelet estimations should be done.

Examination of the blood smear for abnormalities in red cells, platelets and white cells is extremely valuable as a routine procedure.

*The routine use of blood cell counts is wasteful.**
A Hopkins doctor's article published in a recent issue of *S. W. & S.* says the same. — *J. M. N.*

EARLY AMBULATION is distinguished from immediate ambulation. It is clearly evident that *immediate* ambulation is the procedure of choice in proctologic surgery.

—A. J. Cantor, in *Amer. Jour. Dig. Dis.*, Feb.

Cortogen Acetate Ophthalmic Suspension, Schering Corporation: Each c.c. contains 5.0 mg. cortisone acetate, suspended in a buffered isotonic aqueous vehicle. Cortogen Acetate has the property of "blocking" normal tissue response to infections, allergens and trauma. The causative organisms are not impaired, and infections must be treated concomitantly by specific therapy such as Sodium Sulamyd Solution 30%. There are no side-actions.

Indications: Acute, chronic, and allergic blepharitis, spastic entropion due to local irritation; acute, chronic, allergic and phlyctenular conjunctivitis; corneal ulcer, interstitial keratitis, and herpes zoster ophthalmicus; scleritis, episcleritis; acute, chronic and traumatic iritis.

One drop instilled into the eye every one to four hours as needed, depending upon the nature and severity of the disease being treated. Care should be taken not to discontinue therapy too early after the initial response.

THE JOURNAL OF SOUTHERN MEDICINE AND SURGERY

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JAMES M. NORTHRIDGE, M.D., Editor

VOL. CIII

SEPTEMBER, 1951

No. 9

Ocular Problems Common in General Medical Practice

WINSTON ROBERTS, M.D., Winston-Salem, North Carolina
From Department of Ophthalmology, Bowman Gray School of Medicine

IT IS INDEED AN HONOR to be asked to address you in this district and a privilege to be able to speak to those of you who usually see our patients first for all their complaints, including those of symptoms referable to the ocular apparatus. I am particularly glad to be able to spread certain doctrines about common ocular conditions which are still matters of some confusion, and which are frequently handled according to somewhat antiquated concepts. With so general a subject organization is difficult, but I shall roughly follow a chronological order.

DACRYOCYSTITIS IN INFANCY

One of the more common ocular complaints in infancy is dacryocystitis, which usually results from blockage of the naso-lacrimal duct, either by failure of the duct to open completely in its fetal development or by occlusion of the duct by a mucous or epithelial plug. The picture of persistent tearing, a persistent mucoid or muco-purulent discharge, and perhaps repeated episodes of localized cellulitis or even abscess formation is a well known one. Watchful waiting has been the common practice in these cases in the hope that the duct would in time open up and drain and thus clear the chronic infection spontaneously. However, many will be left with permanent strictures of the duct,

after having long suffered the nuisance of the chronically infected conjunctival sac, spilling of tears, and perhaps recurrent abscesses. This condition is handled much better by early active interference. If the tearing and discharge continue into the second or third month, the lacrimal passages should be irrigated and opened by probing. In this early-age group this can readily be done by wrapping the baby, instilling a few drops of topical anesthetic, and then passing a lacrimal cannula through the punctum and canaliculus into the lacrimal sac, washing out all discharge, and then passing it through the naso-lacrimal duct into the nose. It is seldom necessary to repeat this procedure more than twice in order to give permanent patency to the duct, and relief of the distressing and annoying symptoms is dramatic and lasting.

STRABISMUS IN CHILDREN

One of the more common serious ocular disturbances in children is strabismus, or squint. It is distressing to see how frequently anything approaching an ideal result in the treatment of squints is missed because of lack of opportunity or a disinclination to attack the problem at the age in which it can be best handled. Ideal results can best be obtained when treatment is coöordinated with the normal development in the child of the ocular skills and abilities, particularly those involving binocular function. These abilities develop primarily in the first three or four years of

life, with the eye-to-brain pathways being established in the first year or two and the impulses for binocular coöperation developing particularly in the third and fourth years.

Our goals for the therapy of squints in children have three chief aims: First, that the child will see well out of each eye—will have no amblyopia or functional blindness from failure to use his commonly deviated eye; second, that the child will avoid the stigma and psychological burden of the appearance of crossed eyes; third—most ideal and most difficult to attain—to make possible such coöperation between his two eyes as to give him fusion, and possibly in addition depth perception.

We prefer to manage the complications of squints by prevention, or by early treatment before the complications are deep-seated, and so to see the child with congenital squint by the first birthday. At that time we can make him use the eye which he is deviating by covering the eye which is normally used for fixation and so can readily avoid or overcome the functional blindness from disuse. When fixation is equally well established in the two eyes, the occluder can be alternated between the two. If the squint does not appear until near the second birthday or later it will usually have a large accommodative or focusing component, and glasses can be expected to help or cure it. Consequently if we can see these children in the early period after the onset of their squint and can correct the refractive error which is leading to the excessive focusing efforts, with its accompanying convergence from the accommodation-convergence reflex which is also developing in this age period, we may abort the squint at its very onset or reduce it greatly and make its further treatment much simpler.

If the child is to develop his normal binocular impulses which let him fuse the images in the two eyes and use the two eyes together, it is obvious that he must have his eyes placed in a position where the images of the objects fixed are falling on or very nearly on the macula in each eye. It may be well expressed by saying that he must be given an "opportunity for fusion," and this opportunity certainly demands that his eyes be placed in a straight or a nearly straight position during the period when he would normally establish his fusion. Consequently we believe that surgery should be done early, and if the squint is a congenital one present from birth, we believe that any amblyopia should be first overcome and then the squint surgically treated as soon as the child can safely stand a general anesthetic, that is by the 10th to 18th month, or certainly by the second birthday.

In the accommodative or refractive group, just as soon as we have determined how much of the

squint can be controlled by an adequate cycloplegic refraction, plus treatment of the amblyopia, once again surgery should be done so that the child can be given the opportunity for fusion in this period when he normally will be developing it. We frequently find that placing the eyes even nearly straight in in this early period, when the child is normally establishing binocular coöperation, will remove the need for further fusional training and orthoptic measures, since the child will himself perform in his everyday use of his eyes better fusional training than any exercises we can give him if he has any fusion impulse at all.

Thus we can achieve the latter two goals of therapy, to make the eyes cosmetically straight and to give binocular vision, in many instances, by the one procedure of placing his eyes in as nearly a straight position as is possible to achieve, if we coördinate the time of our surgery with the physiological development of the child. You who see most of these children in their infancy and early years can do most in getting them to the ophthalmologist in this early-age period, when we can hope to achieve normal function, rather than letting the child go along, perhaps until his school years, when we can only hope to achieve cosmetic improvement and that with more difficulty.

OCULAR INFECTIONS

Certainly no infection about the eye is more common or more commonly neglected than blepharitis, in its severe forms called often granulated eye lids. This condition, almost as prevalent as athlete's foot or dandruff, is of real importance because the lid margin may become scarred, or the seat of a chronic infection, which may lead to a persistent conjunctivitis and even corneal ulceration. The most common causative agents are *Staphylococcus aureus*, which produces little pustules and crusted ulcers; and a seborrheic infection, believed to be due to *Pityrosporum ovale*, which produces an oily scale on the lid margin.

Long-continued use of ophthalmic ointments of sodium sulfacetamide, chloromycetin, or aureomycin will usually clear up the staphylococcus, although milking of the glands may be necessary if the infection is deep within the Meibomian glands. For the seborrhea, ointments containing the commonly used antiseborrhemics in one-third to one-half the strengths used on the skin elsewhere, are also effective. As for conjunctivitis, in general solutions are better for ointments, since they have a greater irrigating and cleansing effect and are less liable to produce irritation. At this time we favor 30 per cent sodium sulfacetamide solution. In the near future chloromycetin ophthalmic solution will become available and it is apparently in some ways an even better drug, which also extends the useful effective anti-bacterial or anti-viral spectrum. We

strongly advise against using penicillin for mild attacks of conjunctivitis; although it is effective in a large number of cases, it is unwise to risk sensitizing the individual to a drug which may later be life-saving to him. If the conjunctivitis is severe and purulent, or persists longer than a few days, it is advisable to take cultures and perhaps to refer the patient to an ophthalmologist.

GLAUCOMA

To many doctors the term glaucoma means acute congestive glaucoma, with its severe pain and headache, a red eye, a hazy cornea, frequently a dilated pupils, and a rapid loss of vision. Certainly this represents one of the gravest ocular emergencies, since unless the elevated intraocular pressure is controlled within a few hours, vision may be tremendously and permanently reduced. For the practitioner nothing about acute congestive glaucoma is as important as the need to be on the lookout for it, particularly in any case of severe headache, or perhaps gastrointestinal upset with headache and prostration for which no good explanation can be found.

It is essential to keep in mind the commonly confusing differential diagnosis between acute congestive glaucoma and acute iritis. Iritis may present a strikingly similar picture, with red eye, rather severe pain and headache, and rapid loss of vision, and indeed, a secondary rise in the intraocular pressure during its acute phase. The very great importance of this differential diagnosis lies with the diametrically opposed drug therapy for the two conditions, glaucoma calling imperatively for the use of miotics, iritis for the use of mydriatics. Certainly nothing worse could be done for acute congestive glaucoma than instillation of atropine into the eye, which will dilate the pupil still further and further block the drainage from the anterior chamber by forcing the iris out into the chamber angle, converting an already difficult problem into a virtually uncontrollable attack. Wherever there is a possibility of confusing the two, it is far, far better to do nothing more than sedation until ophthalmological attention can be given. Procrastination in acute congestive glaucoma can cause total and permanent loss of vision in less than 48 hours if the tension rises to great heights without control.

Chronic glaucoma, which is far more frequent, presents an entirely different picture, and because of its insidious onset, is rarely diagnosed until far advanced. There is some increase in tension, an undermined cupping of the optic disc, and a characteristic loss of visual field. Early diagnosis is essential for prevention of irreversible loss of vision. Early diagnosis can be made only by physicians being constantly watchful for this disorder, especially for suspicious cupping of the optic disc.

Since it is a disease primarily of the elderly and since it seldom manifests itself to the patient until late in its course, this early diagnosis can only be made by periodic examinations of the eye by an ophthalmologist who can check the tension and visual fields in suspicious cases, or by a physician who can refer suspicious cases to an ophthalmologist.

CATARACTS

Some misconceptions about one of the common major eye diseases, cataract, are still widely held. You all know that cataracts are simply lenses which have lost their transparency, usually in an elderly person, but occasionally in young adults and sometimes in children. For many years it was necessary to permit cataracts to become totally opaque—mature or ripe—before surgery could be safely undertaken. With our modern surgical technique for intracapsular extraction this is no longer necessary, indeed is strongly contraindicated. The proper time for surgical treatment of the cataracts is reached when the vision in the better eye has so fallen that the patient is finding it difficult to carry on the life he likes to lead, which usually means when he is beginning to find it difficult to read. Cataract extraction by the intracapsular method is easier if the lens is not completely mature, and the patient is spared months or years of near blindness by having his cataracts removed when they become a handicap to him. We still have no medical treatment for cataracts which is of any proved or even strongly suggestive value.

VASCULAR LESIONS OF THE FUNDUS OCULI

It is my perhaps somewhat biased opinion that the ophthalmoscope is or should be as great a diagnostic aid as the stethoscope to those of you practicing internal medicine, pediatrics, general surgery, or general medicine; and, since diseases of the vascular system make up such a large portion of medical practice, nothing which helps us evaluate them more accurately should be neglected. This discussion will concern chiefly the retinopathies and vessel changes which accompany hypertension, arteriosclerosis, and diabetes.

A normal fundus may be used to establish a standard for evaluating the vessel changes and retinopathies which all of you have occasion to see frequently. The most commonly seen portion of the fundus includes the disc, the macula, with its surrounding central region, and the large branches of the central artery and vein of the retina. The normal size relationship between the main branches of the central artery and vein is an index to some of the earliest hypertensive changes. This normal ratio between vein and artery adjacent to the disc is in the range of two to three, or three to four, and we can all appreciate gross variations from this range.

In hypertension the first vessel change is angospasm, or simply an increased tone of the vessel wall, and this would be reflected by a change in the size ratio between the artery and vein. In addition if there is focal variation in the caliber of the arterioles, or segmental narrowing, we take it to indicate that the hypertension is actively progressive. We believe that both of these changes may be, and often are, reversed. If they are repeated many times, or if they are maintained for prolonged periods, organic change in the vessel wall will occur. It should be realized that when we see these blood vessels in the fundus, what we are seeing is not the vessels themselves but simply the column of blood in the vessel—that the vessel wall in the retinal vessel is entirely transparent in its normal condition. Only in hypertension of such long standing as to cause organic change, does the vessel wall lose a part of its transparency—a fact of great value in evaluating organic vessel change, as arteriosclerosis.

It has been emphasized by Waggoner et al. at the Mayo Clinic that arteriosclerosis, with the exception of focal atherosclerosis, is invariably a sequela of hypertension, perhaps transient and perhaps a relative hypertension particularly reflected in the retinal circulation. Most useful in evaluating these organic vessel changes are what may be called "crossing phenomena." In the normal fundus the vein and artery cross with no loss of visibility of either at the point of crossing and with no angulation. If the vessel wall has lost a part of its transparency there will be a haziness, or perhaps a complete loss of visibility, of the vein as it ducks beneath the artery, and as the artery becomes increasingly rigid it will not only hide the vein beneath it but will cause the vein to angulate at the crossing. Compression and angulation of the vein at the crossing—"AV nicking"—is the best indication of organic change in the vessel wall and one which can be readily appreciated by any observer. Hypertension alone can do some compression of the vein as it passes beneath the artery, but the vein will be visible right up to the arterial blood column.

A second change, and one harder to evaluate, is the color change in the arterial wall from the normally bright, oxygenated red to a lighter, somewhat orange-red, to a coppery sheen, to a silvery sheen, to eventually total disappearance of the visible blood column in the vessel. A third change is development of tortuosity in the terminal vessels which form a very tortuous, worm-like pattern visible particularly in the small vessels leading toward the macula.

As for actual retinopathy—that is exudation, edema, and hemorrhage—it is important to appreciate that all these are simply manifestations of

inadequacy of the circulation, to slowing or stasis of the blood flow which leads to increased permeability of the capillary walls, to chronic anoxemia of the retinal tissues, and to gradual degenerative change in the tissues. Hemorrhages are simply a result of leakage through the wall of the vessels which have become more permeable as a result of the slowed and inefficient blood flow through them. The flame-shaped hemorrhages are hemorrhages in the superficial nerve-fiber layer of the retina, and they are flame-shaped because the blood extravasates in the linear pattern of the nerve-fiber layer. The round irregular hemorrhages are exactly similar in origin—except of course in the case of diabetic hemorrhages—but are in the deep layers of the retina where they can diffuse more generally.

The "cotton-wool" or fluffy white exudate, which is particularly characteristic of acute hypertension, is the result of ischemic infarction. The yellow, waxy, hard exudates or white, hard exudates, are fatty and hyaline degeneration in tissue which has suffered from prolonged malnutrition and anoxemia—from chronic passive congestion of the retinal tissues.

Papilledema is probably simply a manifestation of the edema of the central nervous system and retina as a whole, and it is of all the signs in the hypertensive fundus the one which carries the gravest import.

It should be emphasized that these changes in the retinopathies are all a result of hypertension and/or arteriosclerosis, and that, whatever the primary disease process in the individual, these changes are the same and are a result of the increase of blood pressure, and not of some toxin which the disease may produce. Consequently an exactly similar picture may be produced by essential hypertension, by chronic glomerulo-nephritis, by toxemia of pregnancy, by malignant nephrosclerosis, or by anything which is producing hypertension. This point may be emphasized to attempt to get away from the unfortunate terminology which has been so widely used in the past, particularly such terms as albuminuric retinitis or nephritic retinitis, both misleading terms in that they suggest an inflammatory process due to some toxin or other factor specific in the disease rather than the result of a circulatory insufficiency.

Other vascular manifestations of hypertension, and of arteriosclerosis in most cases, although occasionally seen in the absence of any great degree of either of these, are the occlusions of the retinal circulation. One of the more common retinopathies is that produced by an occlusion of a branch of the central retinal vein, and this is characterized by a very intensely hemorrhagic area along the course of one of the branches of the central vein

of the retina, which leaks blood profusely when it is blocked by an embolus or thrombous at some point in its course. Similarly the central vein of the retina itself may become blocked partially or totally, and depending upon the degree of the block the retina may be almost totally obscured by diffuse hemorrhages, or may simply show widespread, less intense hemorrhage throughout the entire retina. In addition, papilledema is a constant feature of the picture of occlusion of the central vein of the retina. The veins become tremendously dilated and tortuous, and the picture points strikingly toward the diagnosis.

Occlusion of the central artery of the retina presents a considerably less dramatic appearance but carries a far graver prognosis, because without the arterial blood flow the retinal cells will die within a period of a very, very few hours. The typical central arterial occlusion presents a picture of extreme and very diffuse edema of the retina. The total lack or obscuration of the arterial column of blood is typical, with perhaps in some branches a little segmented blood column—the so called box-car segmentation—which often can be seen to be moving slowly along the course of the branch of the central artery. In addition the cherry-red appearing macula is a diagnostic aid. This results from the thinness of the macular region of the retina, since by its very thinness the retina in this area does not become as edematous as the surrounding retinal tissue and the normal red color of the retina stands out in contrast to the milky pallor of the remaining portion of the retina. Again let me emphasize that this is one of the gravest of all the ocular emergencies, and treatment to be successful must be begun within the first few hours after the onset of the occlusion.

Treatment is primarily by means of vasodilators—nitrites, etamon, and priscoline. By contrast our treatment for the venous occlusion, which destroys vision much less rapidly and which is far more reversible, is by means of anticoagulants primarily, and some truly dramatic recoveries have been seen with the use of heparin and dicoumarol in this disorder. Here also the earlier therapy is begun the greater is the likelihood of successful reestablishment of the blood flow and a return of vision.

Diabetic retinopathy has been in the past widely misunderstood and poorly interpreted. Most characteristic of diabetic retinopathy is that, by no means infrequently, the diagnosis of diabetes can be made with the ophthalmoscope, sometimes even in the presence of an apparently sugar-free urine. The most characteristic and earliest sign of a diabetic retinopathy is the presence of the small punctate hemorrhages, especially in the central area, which are actually the result of small aneurysmal dilations of the capillaries, which may in addition

leak small amounts of blood. These microaneurysms have actually been demonstrated in tissue preparations. In addition the rather typical yellow, hard exudate is common in diabetes, and these two features are the earliest retinal changes in diabetes, the hemorrhages or aneurysms being far more characteristic.

Usually in diabetes of any duration there is in addition arteriosclerosis and frequently hypertension, and of course all the findings which accompany these diseases may also be present. In advanced, long-standing diabetes there are in addition lesions which accompany protein disturbance in diabetics. Bleeding into the vitreous and pre-retinal, boat-shaped hemorrhages are frequently seen, with terminally proliferation of blood vessels into hyperplastic glial tissue, forming what we call retinitis proliferans. This is said to indicate the presence of the nephrotic phase of diabetes—the Kimmelstiel-Wilson syndrome. It is striking that the incidence of blindness from diabetes has mounted rapidly within the past twenty years or so, because of the fact that diabetics are living so much longer, and diabetic retinopathy is in direct relationship to the duration of the disease rather than its severity. We know little which seems to control the diabetic retinopathy, but we feel that very careful diabetic regulation, with an attempt to keep the blood sugar within normal levels, is the best bet. In addition use of substances like rutin on a perennial basis seems to be of some value in holding bleeding to a minimum.

In closing may I emphasize that, since you in the general medical lines see the mass of the people early in the course of their ocular troubles like all their other physical troubles, it is only with your help that those of us doing ophthalmic practice can hope to offer best possible treatment, and treatment at the best possible time, for these and many other ocular problems which we see day after day.

EDRISAL FOR RELIEF OF SYMPTOMS ASSOCIATED WITH MENSTRUATION

C. L. Wells, M.D., in *Medical Annals District of Columbia*, July

Edrisal* was made available to 740 women employees in a large central office, and these were encouraged to use it particularly for cramps, backache and headache associated with the menses. Individual records were kept to determine its effectiveness.

In a group of 154 employees out of a potential of 740, 90% gained relief of menstrual symptoms from Edrisal; 72% of the 154 required 3 tablets or less for relief; none in this group taking over 5 tablets in a 24-hour period.

No significant untoward reactions from using Edrisal occurred.

Edrisal is an effective analgesic for the relief of headache, backache, and cramps associated with menstruation, more effective than any other analgesic previously used by the participating employees.

*Acetylsalicylic acid, 2 1/2 grains; phenacetin 2 1/2 gr.; benzedrine sulfate 2.5 mg. (1/26th gr.), a product of Smith, Kline & French Laboratories, Philadelphia.

The Role of Psychotherapy in Functional and Organic Heart Disease

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PSYCHOSOMATIC is not a new term, but a newly popular term, which describes an approach to medicine as old as the art of healing itself. It is not a new specialty but rather a point of view which applies to all aspects of medicine and surgery. It does not mean to study the soma less; it only means to study the psyche more. Its subject matter is founded on the important advances in physical medicine as well as on the biologically oriented psychology of Freud, without whose epochal discoveries no work on psychosomatic medicine could be attempted. It is not a new discovery, but rather a reaffirmation of the ancient principle that the mind and the body are interactive and interdependent, a principle that has always guided the intelligent general practitioner. Indeed, many a family doctor was (and is) an excellent psychosomatic physician, although he never thought of himself as such. In former times his patients usually were intimate friends, and he was as familiar with their emotional and psychological structure as with their physical peculiarities. He was well aware that the two frequently were closely related. As a science, psychosomatics aims at discovering the precise nature of this relationship for the greater benefit of patients and physicians. Let us study cardivascular disease from this standpoint.

CAUSES OF CARDIAC NEUROSIS

The clinical syndrome of cardiac neurosis may vary from a very mild disturbance to an incapacitating illness. Under what circumstances does it arise? One of the very frequent causes is a life insurance examination in a patient who has been previously well, but with a neurotic predisposition because of a certain personality make-up. When such a person comes up for life insurance and is told that he has a murmur, or is told of the presence of high blood pressure, he immediately becomes conscious of his heart and begins to complain of pain, palpitation, shortness of breath and fatigue. Placing false emphasis on a skipped beat is a frequent precipitating factors. But perhaps the most potent cause of all is the situation in which a patient has undergone a long and gruelling period of deprivation and fatigue. Continued emotional stress, often incident to taking care of a person in

the household afflicted with a serious disease (especially heart disease); a daughter taking care of a parent, devoted to the parent, and often with certain conflicting feelings that she is not completely aware of, duty-bound to look after that parent, sacrificing herself, giving of her time and devotion, then, after the death of the parent, worn out by prolonged grief, develops peculiar sensations in the heart region, referred to as pain, and the rest of the clinical picture gradually evolves.¹

TREATMENT

This is the problem of anxiety and the normal heart, and under the circumstances mentioned, the physician himself becomes a *pathogenic agent* when he disregards the personality of the patient and emphasizes the physical findings to the exclusion of the social background; when he becomes too much impressed by skipped beats, by systolic murmurs, by moderate elevation of blood pressure, and allows the patient to feel his apprehension. Under these circumstances the doctor may precipitate the neurosis. We have seen a great deal of it in the course of Selective Service examinations. So the first thing one must say regarding treatment is from the standpoint of *prophylaxis*. One must take into consideration the personality of the patient as well as the behavior of the heart, and the doctor must not overemphasize the forceful action, the elevated blood pressure, skipped beat or systolic murmur for fear of precipitating the patient into neurotic invalidism. Another circumstance under which this sometimes happens is with an *anxiety attack*. The anxiety attack is a well defined clinical picture which may vary all the way from shakiness of the legs to panic. It occurs in patients who have been carrying a heavy burden of anxiety, about which they may be totally unaware, and who get into some situation that calls forth their anxiety. It often happens for the first time in closed spaces. A person, often a young woman, while in a closed room with many people, suddenly feels faint, the heart pounds, and a physician is called. He listens to the overactive heart and cautions the patient to go home and rest. This may be the beginning of a cardiac neurosis in a predisposed individual. It is an anxiety attack; and it ought to be recognized for what it is and not called heart disease or hyperthyroidism or hyperinsulinism, or any one of a multitude of other terms that are often attached to anxiety.

But suppose that we meet the patient under the usual circumstances. He comes to your office complaining of "heart pain" and the other symptoms. You can't slap him on the back and reassure him with the statement, "Your heart is all right: forget it." If any patient deserves a careful history and physical examination, it is this patient; not only to assure yourself, but to establish the confidence which is the background for psychotherapy. Psychotherapy is not a slap on the back, or the statement, "It is all in your head," or having a patient stay in bed. *Psychotherapy* is a scientific discipline in which one helps the patient to understand the emotional background of illness. A careful history and physical examination, supplemented by other studies, such as an electrocardiogram and fluoroscopy, are frequently essential in establishing the background for psychotherapy. To say to a patient like this after a casual examination, "I don't think you have heart disease, but you had better rest," and then to give digitalis is the wrong thing to do. Even a stupid patient knows there is something wrong with that kind of advice. You have to examine him carefully and then say with conviction, "You do not have heart disease," and then and only then do you have a background for proceeding with psychotherapy. Psychotherapy is only an effort to utilize the knowledge of a patient as a human being in managing his illness.

It is true that there is a psychopathology, that the personality has a structure and that, in order to know how to deal with people successfully, the more you know about the construction of the personality the better you can do it. But for general purposes we can say that one must get to know his patients as human beings rather than just as medical cases. Physicians working in smaller communities have a superiority over others who are restricted to hospital practice in large communities. Many such physicians are familiar with the family background of their patients and other facts concerning them, which is utilized in their medical management, whereas hospital specialists select a part of the body and study that, often divorcing it from the whole human being, which, I submit, is bad medicine. There is no part of the body that can be divorced from the personality—from teeth to toenails.

In other words, psychosomatic medicine reaches into every aspect of the individual. Now, how can we go about this study? Many will say, "We can't take the time; especially now, we can't take the time." I answer, "We must take time." You can not deal successfully with these patients unless you take time. That does not mean that we have to sit down and say, "You are now undergoing psychotherapy," and spend an hour in a busy office practice with every patient that comes along;

but it does mean that with the occasional patient one has to be willing to sit down and listen rather than talk, and then not to give advice on involved emotional matters. Experienced and seasoned practitioners know that. So often people are told to get married as a short cut to the solution of involved emotional problems; or they are told to have a baby, and, one baby failing to cure the neurosis, they are told to have another, and so it goes. I have never seen marriage or parenthood cure a severe neurosis and I think on the whole it is bad advice. Not only does it do the patient herself no good, but it creates the soil for another spoiled life! Because this is the real social disease—the atmosphere of the home of maladjustment is absorbed by the growing personality of the child and this is the background of psychopathology. This is where anxiety comes from. It is the insecure child, growing up in an atmosphere of tension, who becomes the neurotic adult and who one day shows up with cardiac neurosis or other neurotic disturbances. No matter how many books an intellectual, but badly adjusted, mother may read on the psychology of child rearing, it will do no good. In homes where people are well adjusted, care for one another, and care for their children, they don't have to read books on psychology and they can make lots of psychologic mistakes, yet their children grow up as well adjusted healthy persons.

Taking the time to listen to the patient is economical in the end because a great many patients—private and hospital—who have been around to many doctors and clinics accumulate a chart an inch thick. They have become addicts to the outpatient method of being referred from clinic to clinic, stopping no place and ending up bewildered and in worse condition than at the beginning. I refer to them as thick-chart patients. If you analyze one of these charts, you will find that the expenditure of time and money far exceeds an hour or two well spent with such a patient in the beginning. Once you get to know a patient's problem, you don't have to spend so much time. I have many patients whose life situation I know well enough so that when they report with a symptom, I can quickly put my finger on the problem. This leads to a discussion of the situation that is producing the present trouble. When you balance one method against the other, I think it is economical for the patient and helpful to the physician to get to know patients as persons instead of just as medical cases.

A few more words regarding the treatment of cardiac neurosis. After saying to the patient, "You do not have heart disease," go one step further and say, "Your slogan must be to carry on in spite of symptoms," and then set him a task. He

is to do the task in spite of how he feels. Make it a small task in the beginning and he gains confidence with accomplishment. Having walked a block without fainting, he is ready the next day to walk two. Meanwhile you are getting to know what the problem is and you will always find emotional conflict. He is being pulled in two directions, usually by a family situation, and when you can get him to talk about that instead of his symptoms he improves. But, of course, you don't meddle with the family situation because he does have to live with that situation. Therefore, you don't produce 100 per cent cure, but that is not to be held against you. You don't produce 100 per cent cure in diabetes, but you help diabetics carry on. We improve people and take away the fear of organic disease. We take away the burden of unnecessary medical investigation and operation.

Once you take away the fear of disease, once you take away cancerphobia, the patient can live a little easier. Almost every woman has in the back of her mind the fear of cancer. She may not tell you so, but as she goes out the door she will smile as you have told her she is all right and say, "I am so glad to know it because I was a little bit afraid I might have cancer." The fear of cancer was the reason for the visit. When you take away that fear, you have her started in the right direction. The degree of cancer fear may be taken as an index to the severity of the neurosis. If she is back in a few days with a "cancer" in another region, you are dealing with a severe neurotic. If simple reassurance carries her along for months or years, she is a mild neurotic. The same thing is true for anxiety in relation to the heart.

ANXIETY AND ORGANIC HEART DISEASE

Anxiety in relation to the normal heart is a very important subject, perhaps one of the most important in cardiology, because no matter how common heart disease is, most patients who complain of pain in the heart region do not have organic heart disease. Nevertheless, the problem of anxiety in relation to actual heart disease is even more important and for the following reason: the patient with cardiac neurosis may complain for years and decades and make himself and his family miserable (often controlling his environment by means of his illness) but he can live out a normal span of years. In other words, he does not shorten his life because of his suffering. But given the same individual with organic heart disease—valvular, hypertensive, or coronary—and let him add the same burden of anxiety and he will shorten his years beyond necessity; he will hasten a cardiac breakdown by all of the extra effort he puts on the heart muscle because of the emotional tug-of-war. We get patients with congestive heart failure and they occupy a bed for a long time. They are a

great expense. We study the heart and kidneys and eye-grounds, but almost never do we get to know them as persons. If a social history is taken it often consists of superficial statements that one drinks coffee or tea, or lives on the second floor instead of the first, but nothing is learned about the patient's personal problems, and I submit it is those problems that often bring about heart failure. It isn't a question of coffee or tea or whether he walks up a flight of stairs. It is the constant anxiety that he inflicts upon himself within his family setting, and if you want to do psychotherapy in cardiovascular disease or any other disease, go to the family situation. Who sits down around the table at night? That is the group in which the conflict exists and that is the group you must get to know.² The following case illustrates this problem.

A white woman, aged 34, was admitted to the Temple University Hospital in March, 1948, complaining of "heart disease with attacks of pain and palpitation." Our studies established the diagnosis of aortic and mitral valvular disease with attacks of paroxysmal tachycardia and pseudangina.

She had had serious rheumatic fever at 12 and had been in bed most of the time for three years. Since then she has been so afraid of "smothering" that she has to prop herself up in bed at night with extra pillows. The attacks of pain and palpitation began during pregnancy shortly after her marriage at the age of 18. She was warned not to have a baby because of her heart disease, but she was so eager that "she stayed away from physicians until the eighth month." Although she vomited all through the pregnancy, she gave birth to a healthy boy who is now 15. Then she was pretty well for about a year-and-a-half. She became pregnant again, and although a Catholic, permitted a therapeutic abortion to be done "because she had to live to take care of the boy." Another pregnancy two years later was interrupted, and with a third pregnancy the following year she permitted sterilization to be done. Then she remained pretty well for eight years, but during the past year attacks have been very frequent and the last one, just before admission, was the most severe of all. The pain traveled up into the neck and down the left arm, as it had on several occasions, but in addition she "blacked out" for a few moments. A physician was called, who gave nitroglycerin under the tongue and an injection of morphine and sent her into the hospital.

In the hospital she was propped up in bed, showed sighing respirations which had been present for years, and said that the slightest effort would bring on an attack. Her physician had taught her how to control attacks by pressing on her eyeballs or squeezing her throat; but the latter procedure choked her so much that it was unpleasant, and pressing on the eyeballs was followed by so much pain that she would have her sister-in-law, with whom she lived, administer the treatment rather than try it herself.

The patient was a stout, smiling young woman who could lie flat in bed comfortably. The heart was enlarged to the left and there was definite evidence pointing to aortic and mitral valvular disease. The electrocardiogram suggested myocardial involvement with occasional ventricular extrasystoles. There was no evidence of congestive failure and the remainder of the physical examination showed nothing abnormal; the routine laboratory studies were also negative.

Life Situation: Youngest of three children, she states

that her childhood was a happy one. At the age of 12 she became ill with rheumatic fever and was at home for three years. She does not recall this period as an unhappy time as her family and friends were most considerate and she especially enjoyed the companionship of her father.

At the age of 15 she was allowed to resume normal activity and, instead of going back to school, she decided to take a business course. Within a few months her father died suddenly of heart trouble—the events of that time are still vivid in her mind. It was an extremely difficult experience for her, especially as there had been no warning that the father was ill at all, and it took her a long time to recover from this blow. Her mother, within a few months, became mentally ill due "to shock at the father's death, combined with the approaching menopause." For the next three years the patient and her brothers supported and cared for her mother. The mother became increasingly worse and for a short while was committed to an institution. Within a few months, however, the children signed release papers, and once again the patient had her mother to care for.

When the patient entered the hospital and her history was taken, she said that her mother was dead, but later told the social worker the truth—she was "hopelessly mentally ill." This was the only time, except when speaking of her father's death, that she showed much emotion. She did not tell people "because it saved explaining," and because they were apt to make some remark implying that perhaps the mother's mental illness could be inherited. For several years following the patient's marriage she cared for her mother, but when it became absolutely impossible to manage her at home, they once again committed her to an institution.

The patient's two great fears were: (1) that during one of her attacks she would die suddenly just like her father, and (2) that she would become mentally ill just as her mother had at the time of the menopause.

Discussion: Here was a patient who had evidence of definite organic disease of the heart with attacks of paroxysmal tachycardia and pain in the heart region referred down the left arm. It is the kind of a case about which physicians often say "there is enough here to account for the trouble," meaning that there is so much evidence of organic disease that nothing else need be considered as an explanation for the illness.

A number of features made us suspect otherwise in this young woman. On close questioning she told us that a sense of pressure often preceded the attacks and that shortness of breath, due to sighing respiration, had been present many years. Then, too, she was so afraid of "smothering" that she propped herself up in bed at night for fear that she could not breathe. The attacks, at first attributed to "even the slightest effort," also came on without effort, especially during the past year.

Acting on the assumption that symptoms were out of proportion to disease and that emotional factors might be important, we told her to exercise to bring on an attack, and then see if she could stop it with eyeball pressure, the while we studied her by means of electrocardiography. She was very reluctant but finally agreed. However much we had her exercise, we were unable to bring on an attack! During her hospital stay of two weeks she had no

trouble, felt better than she had in years, and was eager to go home.

How can we account for this remarkable improvement? First of all, she became aware of the close connection between worry and her attacks. This she had not realized upon admission. When asked about her mother, she related the story of the mother's "nervous breakdown" and confinement to a mental institution. This information she had refused to give during the first few days in the hospital. She maintained that her mother was dead, and only after we explained the importance of emotional factors in relation to heart disturbances did she, with a great show of feeling, tell the story of her mother's illness, of her years of devoted care to the mother, and finally, how her health would no longer permit her to look after the mother so that once more she was confined to an institution. Now she admitted this deep secret and we think we may accept that as an index to a considerable degree of recovery. Some of the anxiety and guilt had been removed from this crucial life situation.

We did not attempt to give her any understanding of her ambivalent feelings toward her mother—how much of a burden the mother was and how she must have felt that they would all be better off if the mother were dead. We only allowed her to understand that her ideas of "going crazy," like the mother, have no reality and that the menopause is not a threat in this regard. She had previously told us that the combination of the approaching menopause and her father's death had been responsible for the mother's nervous breakdown.

Follow-up: This patient was followed in the outpatient department and at the end of a year reported that improvement had been maintained and that no further attacks had occurred.

Therefore, we see that superficial psychotherapy based upon a knowledge of psychodynamics has apparently been responsible for a great deal of improvement in this young woman. We are certain that she can live much longer and in far happier fashion if we have succeeded in abolishing these attacks by psychotherapy. Her heart, although diseased, may permit her to carry on for many years without symptoms.

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STILBESTROL uncombined or inactivated in the blood stream may be the cause of stilbestrol reaction. If there is a sufficient amount of folic acid and B complex vitamins to combine with stilbestrol to cause it to be estrogenic there will be less or no stilbestrol reactions.

K. J. Karnaky, Houston, in *Miss. Ital. Med. J.*, Sept.

DEPARTMENTS

HUMAN BEHAVIOUR

For this issue JAMES M. NORTHINGTON, M.D., *Editor*
Charlotte, N. C.

MIND, BRAIN AND PSYCHONEUROSES

UNTIL THERE is a more clearly defined idea of what the word mind is intended to express, only a similarly indefinite argument can be presented in speaking of mind in relation to brain. The newborn infant has all the fundamental equipment of lower forms of life in its autonomic nervous system and appendages; but its hemispheres are not yet ready to function, because the fiber tracts are not yet mature. The child has all of the animal's ability to express emotion which, like the animal's, is uncontrolled until it is conditioned by development and discipline and training, or habit-formation. Later, it develops abilities outside mere voluntary ones, and this occurs parallel with the development of its brain. In terms of mind, how shall a distinction be made between the reflex activities of the animal, and the reflex activities, plus those others that are determined by the greater development of the brain of man? Both are concerned with behavior of the "total personality" which has been called mind.

Any thoughtful person is prejudiced in favor of one who is careful to first define his terms, as has a distinguished retired physician.¹ Read on and learn that this discrimination in the use of words foretold discrimination in the weighing of evidence and the formation of judgments.

Many phenomena serve to suggest that the fundamental of all emotions is essentially concerned with maintenance of oxygen supply to the organism. In man, this fear is essentially of loss of life, and may be expressed directly (consciously) or indirectly (unconsciously), depending upon the conditioning of his experience.

The word nervous can mean anything in the category of symptomatology, from a vague restlessness to a serious organic disorder of the nervous system; there is no significant meaning for the word, and treatment must consequently be as uncertain.

The word *psychoneurosis* implies both mind and brain and, in terms of diagnosis and treatment, it is one of the most indefinite concepts in medicine. There are and always have been many "mind cures" and "faith cures," from very highly organized ones, as in sudden religious conversion, to their more lowly associates in prevention, represented by a rabbit's foot or a horse chestnut. All

these have some therapeutic value, in that they give help of some sort to some persons in some way much of the time.

The most important fact is that it is not possible to entirely separate the *mind* from the *body*, since all that is known of mind is expressed in terms of body behavior. The autonomic portion of the nervous system undergoes constant reflex activity in response to visceral influences, as well as to those of the higher centers with which it is connected.

A visual, auditory, or other external stimulus which arouses the fear emotion gives rise to involuntary defense reactions, which involve corresponding chemical and physical changes in the visceral neurones and their surroundings. If the process is reversed, and the visceral neurones are subjected to stimulation by changes of a similar sort in the *internal milieu*, it is easily conceivable that the effect in consciousness is the same as in the first instance. Irritation of the basal nuclei may give well-defined motor and sensory responses in the viscera. With this viewpoint, it is probable that the effect on the autonomic nervous system of such changes in the internal milieu of the viscera can well be a cause of the vague and varied physical symptoms grouped under the head of psychoneurosis. But there would be no demonstrable tissue pathology.

Paresthesias represent a sensory distortion; there is a feeling "as if" for which there may sometimes be no objective. When nerve conduction is entirely interrupted, then there is anesthesia. But little is known about paresthesias which may exist in the viscera. A general anesthetic abolishes consciousness of pain, but the viscera continue to function. Spinal anesthesia also abolishes visceral pain, but general consciousness is not disturbed. There is an analogy in the effect of a general anesthetic and clinical peripheral sensory anesthesia from nerve irritation. There is an "as if" but not a normal response. Some persons never dream. Those who dream are in a condition of "paresthesia." What part the autonomic system plays is unknown, as is also the meaning of sleep itself.

Consideration might be given to delirium, with its clouding or lack of consciousness, in which, however, the irritant (stimulus) can usually be identified. Mental disorder also has its "paresthesias" manifested in illusion, delusion and hallucination. These all represent the "as if."

Deficiency states may create a disordered internal milieu without demonstrable tissue pathology. May not these metabolic disturbances below the clinical level be one source of autonomic (emotional) nervous disorder? Such possibility is suggested by the finding of antibodies for infective agents, such as those causing poliomyelitis, in cases presenting no signs or symptoms to signify their

¹ A. E. Taft, M.D., in Haverford, Pa., *Journal of Nervous & Mental Disease*, Aug.

action. In pernicious anemia cord symptoms may be well developed before changes in the blood.

The human animal is capable of responding in a high degree to habit-formation. When training and discipline are started very early in life, and carried on consistently, the normal human being will be able to adapt himself to his surroundings under any circumstances. *Such adaptability is a measuring stick of mental and emotional maturity.* A child who has not been trained from the beginning to make personal adjustments, forms fixed habits of responding to situations largely or wholly on impulse.

The theories for child training during the past generation has been that no sufficient discipline should be given, but that behavior should depend upon the undirected choice of the child. This method has resulted in many persons having reached adult age without having had any conditioning to adapt themselves to the customs of society and to the laws of the land. Consequently, when such an adult meets with an obstacle which prevents his following his impulse, as these persons are accustomed to do, like the test animals they can only feel "frustration" and inner "conflict."

For therapy in neuroses, anything which will recondition the behavior pattern already established will answer the purpose, and the means in successful use are many. The *voluntary* function of the nervous system is represented in the cerebral hemispheres, and that part of its activity peculiar to man is *mind*. This activity, or mind can control the outward expression of the total activity of the involuntary nervous organization, or behavior. Thus, mind represents the expression of controlled activity of the entire living organism. Mental disorder, rather than normal mind, represents the manifestation of the "organism when it functions as a whole," without controlled selection.

Clinical Microscopy

AN ACCURATE METHOD FOR RAPID BLOOD-GROUPING OF LARGE NUMBERS OF PERSONS

THE REBIRTH of interest in civil-defense measures has pointed up the need for blood-grouping and typing methods that will permit millions of tests to be performed by technicians of ordinary ability with a high degree of accuracy, in a reasonable time.

A trial and comparative study of slide *versus* test-tube typing methods were made by a Boston group¹ as follows:

The slide used is 3 in. x 12 in., single-thickness

¹. F. H. Allen, Jr., M.D., et al., Boston, in *New Eng. Jour. of Med.*, June 21st.

window glass with polished edges, divided into 10 units, the lines applied with a silk screen, using ordinary black silk-screen enamel, allowed to dry for five days. The slides are washed at intervals with soapy water but are usually merely rinsed under running tap water and dried with a towel. A single slide has been used and washed 100 times without showing signs of wear; it must be protected from scratching or scraping, wrapped in towels or stored in a special slotted box when not in use.

The Clay-Adams viewing box, designed especially for blood-grouping, easily accommodates the slide. Current is left on to keep the box at proper t., but the slide is put on it only when readings are to be done.

White hand towels, 6 in. wooden applicator sticks, fresh saline sol., a dropper pipette, a supply of freshly sterilized No. 11 Bard-Parker blades, alcohol sponges, dry sponges and the typing serums complete the list of expendable supplies. A table 3 x 8 ft., chairs and an adequate light source, and a good-sized workroom with entrance and exit are needed.

For the determination of ABO and Rh blood groups of 400 to 500 persons per day, personnel required are: two technicians, one recorder and general helper and two persons to supervise the making of cards and to keep the line moving. Only the two technicians need be trained personnel. The optimum number of typings per technician per hour is 50 to 60, which allows for a rest period of five to 10 minutes once an hour.

Persons to be typed are given a card with name, address, date and a space for recording of the blood groups. This card would ideally be a metal "dog-tag." One team can easily keep up with one "dog-tag" printing machine. A group of 10 donors with cards made out is formed and a card with a large number clipped to the front of the clothing, the number ranging from 1 to 10. Successive groups use a letter in addition to the number. On entering the room the line of 10 first meets the assistant technician, who cleans the finger with an alcohol sponge and punctures it with an individual lancet, deep enough that a free-falling drop may be obtained with minimal squeezing. The other technician has prepared the slide by adding a fairly large drop of saline solution to each of the squares in which anti-A or anti-B serums are to be used; a drop of the appropriate serum is placed in the same squares. The saline solution is added to retard drying of the anti-A and anti-B serums. (Serums must be approved (by the N. I. H.) commercial serums of known adequate potency. The anti-Rh (anti-D) serum must be of the "slide testing" variety.) One-tenth c.c. of heparin solution is added to each vial of anti-D typing serum. The slide is placed on a white towel under good illum-

ination.

As each donor reach her, the technician notes the number clipped to his clothing and then, after wiping the finger free of blood with the sponge and squeezing it if necessary to get a small drop of fresh blood, proceeds to set up the typing tests in the appropriate squares. With the end of a wooden application stick a very small amount of blood from the finger to the drop of anti-A serum mixture and stirred to an even suspension; the other end of the stick is used to transfer a small amount of blood to the anti-B serum and stir it in. The finger is then squeezed again if necessary, and a large drop of blood is added to the anti-D serum directly from the finger, the finger being guided into position. The stick is then broken and one of the broken ends is used to mix thoroughly the blood and the anti-D serum. This mixture should extend from the top to the bottom in a straight-edged pattern, as wide as possible, not to make a film so thin as to dry out too quickly.

The accuracy of this slide test method depends on strict attention to detail.

When the 10 tests are set up—usually in 4 min. or less—the box is tilted back and forth to cause flowing of the blood and anti-D mixtures to the lower part of the square, at intervals of 10 to 15 sec. until agglut. of the majority of bloods with the anti-D serum is apparent. Readings are then begun. The anti-A and anti-B serums will have produced agglu. of the red cells, if agglu. is to occur at all. As the results are called out, by numbers, they are recorded on the identification card by the recorder, who checks the number on the subject's clothing at the same time. The recorded result is checked, either while being written or afterwards, by the first technician, and also by the second technician, who did the finger stabbing. The identity of the individual is also checked by calling out his name at the time of the checking of the card. As an added precaution, persons who are apparently Rh-negative may be asked to wait until after all 10 reports have been given, in order that their Rh tests may be re-examined at the end.

We have the authority of this responsible group that:

This method was found to be more accurate than the slower and more costly test-tube method even though the latter may include a backward checking or serum typing for ABO. 1209 persons were tested by both methods. The test-tube method resulted in known errors of 0.41 per cent, for the rapid slide test of only 0.08 per cent. Less than 4 h. of technician time are required for the typing of 100 subjects by the slide test, as compared with 14 h. for the standard test-tube method.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

AN INSTRUCTIVE CASE RECORD OF THE MASSACHUSETTS GENERAL HOSPITAL¹

THIS REPORT is abstracted to show how even the best diagnosticians working under ideal conditions may err, and how honestly some of these report their errors.

A blind woman, 38, admitted complaining of increasing girth of the abdomen, difficulty in breathing and left-upper quadrant pain. Eleven weeks before she had discovered prominent abdominal veins by palpation, vomited 2 to 3 times per day, had intermittent sharp interscapular pain. R. & L. ankle edema, loss of 25 lbs. from her usual 218. In another hospital studies, including laryngoscopy, chest and abdominal x-ray examination, an IV pyelogram and a BMR, were reported as normal, and a diagnosis of "nervousness" was made. After this, nausea and vomiting abated, although weakness prevented her usual duties. Since an upper-respiratory infection 3 weeks before entry, gradually progressive abdominal swelling, aching in the left upper quad., and increasing difficulty in breathing were first noticed. There had been an additional weight loss of 50 lbs.

Inquiry revealed no previous resp. difficulty, pre-cordial pain, limited exercise tolerance, jaundice, diarrhea, change in bowel habit, hematemesis or food intolerances. For constipation the patient had always taken enemas. Hemorrhoids for many years, over the past year more troublesome. Reg. mens. until 10 mos. prior, since then irregular and often missed periods.

Neck veins not distended, heart and lungs not remarkable except for precor. sys. murmur. Over the distended, tense abdomen were prominent veins around the umbil. abdomen tympanitic, shifting fluid dullness could be demonstrated. Slight upper abdominal tenderness bilat., nontender smooth-edged liver and tip of spleen felt just below costal margin. Pitting edema of both legs. Rectal examination was negative.

T. 98.6°. p. 96, r. 20, b. p. 160/122 in both arms.

Urine: Sp. gr. 1.005 to 1.008, plus for alb., no red cells, 10 white, 6 to 12 epithelial cells, bacteria and a few trichomonas per high-power field. Hem. 13.5 gm., white count 7,600, normal dif. Stool guaiac positive on admission, later guaiac negative. Blood Hinton test negative. Alkaline phosphatase was 7.3 mg., fasting b. s. 83, total protein 6.34, albu. 4.46, glob. 1.88, albumin-globulin ratio of 2.4. NPN 16, brosulfalein ret. 28%, prothrombin time 27 sec.

¹ *New England Journal of Medicine*, June 7, 1951

X-ray film of the chest not unusual, of abdomen showed enlarged liver. Barium-enema exam. unsatisfactory, but no obstr. observed and no gross lesion was identified on the visualized left side. G. I. series showed no esophageal varices or aberration in the stomach or duodenum. A large, firm, tender, rounded mass was subsequently felt in the l. u. quad.; it moved a little with resp., could not be isolated from kidney or spleen. Retrograde pyelograms showed depression of the left kidney. On the 20th hospital day an operation was performed.

Dr. Aub: They are miserable pyelograms, aren't they?

Dr. Wyman: She was a very heavy patient. I do not believe the description of the pyelogram is quite correct. I think there is definite compression of the upper calyces.

Dr. Aub: This looks as if there was a mass over it.

Dr. Wyman: Very definitely. Most probably there is a large mass in the left upper abdomen that is pushing the kidney down, compressing the upper calyces and perhaps pushing the stomach forward and the colon down. I think the spleen is located in this general vicinity.

Dr. Aub: Isn't that the mass here?

Dr. Wyman: Very possibly, I cannot be very definite about it.

Dr. Aub: In 11 weeks this patient lost 75 lbs., therefore this was probably a malignant tumor. She had a mass that may have been a cyst, but a cyst would not cause such weight loss. From the edema of the legs and the fluid in the belly she must have had an obstruction to the circulation. Normal serum protein and albumin-globulin ratio make it appear to have been an obstruction to the circulation. The caput Medusae meant a mass obstructing the portal circulation. Pitting edema of legs might come from a bellyfull of fluid obstructing the vena cava.

Clinical Diagnosis: Hypernephroma.

Dr. Aub's Diagnosis: Carcinoma of body of pancreas, with liver metastases;? hypernephroma.

Anatomical [Post-mortem] Diagnosis: Renal-cell carcinoma with vena-caval and portal-vein obstruction.

Pathological Discussion—Dr. Tracy B. Mallory: A very large tumor was found in the left kidney; it had involved the peritoneal tissue, and grown, as renal carcinomas do, into the renal vein and extended along that into the vena cava. From the symptoms it seemed certain that it must have extended beyond the entrance of the splenic vein—and that proved to be the case. There was direct extension of the tumor into the porta hepatis so that it was impossible to be sure just where the portal vein was situated, although it was almost certainly obstructed by tumor.

Nephrectomy was carried out, and the patient was able to leave the hospital but was forced to return in a little over a week because of further increase of the abdominal swelling.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

HOSPITAL PROPAGANDA

No PROBLEM in the operation of a hospital can be as bad or as good as propaganda. The standing that a hospital has in the community is governed largely by its propaganda reputation. It is either a good hospital as a result of good propaganda or not worthy of patronage as a result of bad propaganda. Any institution can get a bad name or a good name which is not deserved. However, there will be little complaint from anyone if the hospital has an undeserved good name. We will, therefore, deal in this writing with what bad propaganda can do for a good hospital and how it should be coped with.

The American people are much more inclined to believe what they hear, if they hear it often enough, than what they see occasionally. The average citizen seems to get more pleasure out of talking than out of seeing or thinking. It, therefore, becomes plain that one of the duties of hospital administrators, trustees and all others concerned, should be to prepare themselves to influence propaganda in the right direction.

The richest field for cultivating propaganda lies with the conduct of the personnel. Kindness to visitors and friends when they are in the hospital will go far toward creating good propaganda. All hospital personnel realize the importance of being kind and considerate when it comes to the patient, but many times they forget that little courtesies shown a visitor will reap far richer benefits. This is understandable when one realizes that the patient is paying for the service rendered him while the visitor pays nothing for the courtesies extended him. These small courtesies may be almost too trivial for the hospital personnel to consider; but they are not trivial to the mother of a sick baby, or the father of a seriously injured son, or the sister or brother from out of town, who are very much concerned about the welfare of their kin.

Inviting a visitor to have a seat, offering a drink of cool water, or volunteering to give a dose of ammonia to one feeling faint or, a cup of coffee or a sandwich in the middle of the night to a visiting relative of a very ill patient, or information as to where the visitor might find lodging, or give directions as to how to find an address—all of these seem small things but they are tremendously appreciated by the visitor. The hospital personnel can

also do great good by speaking up with favorable propaganda concerning the treatment of the patients and visitors by the attendants and the staff, noticing visitors and former patients when they are recognized on the street and showing interest in the continued welfare of discharged patients. Patients have a particularly keen sense of appreciation when the interest of the hospitals and the doctors extend beyond the date of the receipt for the paid bill. This also should be strongly emphasized when former patients return to the hospital for a social visit. They should be treated with the same courtesy and hospitality as if they had visited in your own home. It is a common saying that self-praise is half a scandal, but the high degree of competition of today has made it necessary that people know your successes as well as your failures. Your failures will be publicized by your enemies and competitors. Your successes must be largely publicized by yourself. Hence, the American public have learned to rely upon advertising as a large part of their success in any business.

It is a known fact that the most popular leaders and the most popular movements of this day and generation are begun largely through press and radio advertisement. Hadacol is one of the shining examples of the past two years. The hospital trustees and all concerned with operating a hospital should become interested in the matter of favorable propaganda in the press and over the radio. At the present time hospital and medical ethics are being overly cautious concerning advertising. If the press agents and the radio announcers were acquainted with the successes of your hospital, they no doubt would take as much delight in printing or announcing these as anything else. It is the belief of the author that we in the hospital world have sadly neglected to encourage the friendship and confidence of the newspapers and the radio commentators. It is not unusual for adverse propaganda to find its way through these channels to the public. It is seldom that favorable propaganda ever gets first-page priority. This is not all the fault of the press. The writer hopes that the day is not far distant when favorable propaganda may be a common occurrence through the radio and the press, and he does feel that if hospital trustees and operators were to meet the press and radio half-way much good could be accomplished.

PEDIATRICS

GAYLE G. ARNOLD, M.D., *Editor*, Richmond, Va.

JUVENILE DIABETES

How does diabetes, discovered in childhood, affect the growing child?, and what may he be like in adulthood? A study of importance which helps

to answer these questions comes from St. Louis.¹ A two-decade period was reviewed, during which 180 juvenile diabetics (diabetes discovered prior to the 15th year) were treated. Of these, follow-up data were available on 120 cases, of which thirty were dead, chiefly of acidosis, and thirty did not coöperate in the study.

Of as great importance as the results of this study are the criteria for evaluation of control. In the history-taking, five main topics were examined:

1. Nutritional progress with reference to the Wetzell grid. Deviation of two physique channels was considered evidence of poor control.
2. Intercurrent ketosis or acidosis since onset of diabetes.
3. Intercurrent hypoglycemic episodes.
4. Intercurrent, significant infectious illnesses.
5. Evaluation of degree of glycosuria. (This correlated best with the *patient's* interest in controlling himself).

In the physical examination also, five main categories were used.

1. Renal status.
2. Blood pressure.
3. Capillary fragility.
4. Retinopathy (Grades I to III).
5. Hepatomegaly, palpable arteriosclerosis, trophic skin disturbance over the lower extremities.

It is valuable at this point to summarize the results of this study. Patients were given point grades on the topics listed above. "The difference in physical grades between those who have had good and poor control is great enough to suggest that not only the duration but also control is important to the incidence of complications in diabetes mellitus. While good control may not entirely prevent the onset of degenerative vascular disease, it may minimize its progress and, therefore, prolong the useful life of the individual."

Consideration of our concept of what is true "control" in diabetes is encouraged by this fine work. A casual answer, such as: "Urine free from sugar, and blood sugar not over 150 mg. per cent," is not adequate, and more informative criteria are now available.

1. Later Status of Juvenile Diabetes, C. W. Daeschner et al. *J. of Ped.*, 38:Jan., 1951.

ACCURACY OF CLINICAL DIAGNOSIS IN 108 AUTOPSIES REVEALING ACTIVE TUBERCULOSIS

T. H. Davidson et al., Milwaukee, in *Wisconsin Med. J.*, Aug.,

Accuracy of clinical diagnosis involving both active tuberculosis and other associated diseases determined by a study of 108 postmortems in cases of active tuberculosis was 121 (86%) in 141 instances of the various disorders. Active tuberculosis was missed clinically in 13 (12%) of the total group studied. Nontuberculous diseases went undiagnosed premortem in 7 (6.5%) cases.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

GUIDEPOSTS FOR CONTROL AND PREVENTION OF RABIES

How a rabies epidemic was handled without development of a case in a human.¹

In Adams County, Col., in July and Aug., 1949, three dogs and a cat were found to be rabid; in November there were 8 cases in Denver and one in Adams County. The new cases in the Metropolitan Area rose to 11 in Jan. and 31 in Feb., 1950; do diminishment in March. The number of dogs being immunized through the usual channels had increased considerably.

The veterinarians assured willing participation, and a mass immunization program at temporary clinics, supplemented by intensified licensure and stray dog collection, was agreed upon. Under the chairmanship of the State Director of Local Health Services, arrangements were made within a week, with the aid of the radio, press, schools, churches, etc. Then, from March 17th through March 22nd, clinics were held at convenient places throughout the Metropolitan Area, including 11 Junior High Schools in Denver. By the close of the drive 22,492 animals, including some cats, had been immunized at the emergency clinics. More than 4,000 animals were vaccinated, between March 8th and 22nd, by veterinarians in their own establishments. Numerous stray dogs were collected in the pickup campaign.

Using a ratio of one dog for each 10 persons, it was estimated that there were 50,000 dogs in the Metropolitan Area, and it was considered essential that more than 2/3 be immunized in order to arrest the epidemic. The veterinarians reported a total of 35,900 vaccinations, not including unreported immunizations, dogs vaccinated in earlier months, and dogs picked up as strays.

Reported cases for later months: April 15, May 6, June 1. There was only one case of rabies in the Metropolitan Area in June, 1950.

The State Laboratory and Denver and Tri-County Health Departments made every effort to see that individuals exposed to infection by rabid animals obtained anti-rabic treatment. The medical profession acted quickly and no human cases developed.

Yearly vaccination of all dogs against disease is the basic essential in rabies prevention, because 3/4 of the cases occur among dogs and because the immunity acquired through inoculation endures 12 months. In the Denver Metropolitan Area epidemic, practically all of the rabid dogs for which case histories were obtainable from the owners

¹ J. R. L. Cleere, M.D., Denver, in *Rocky Mountain Med. Jour.*, July.

either had not been vaccinated within 12 months of the appearance of symptoms or inoculated too recently to have acquired maximum immunity, usually reached in about 30 days.

Immunization as a prerequisite for annual licensure, strict enforcement of licensing requirements, and vigilant collection of strays are potent elements in control of rabies in dogs and in preventing transmission of the disease to man. An ordinance requires affixing vaccination tags to every dog's collar, and in addition, a rabies vaccination tag bearing the date of the current or the previous year.

RESUSCITATION OF THE NEWBORN INFANT

APPARENTLY, in some parts, the pediatrician takes over the care of the infant as soon as it emerges from the birth canal. A Mobile baby doctor¹ gives detailed instruction in resuscitation of the newborn which will interest and profit many readers.

Before birth, when the slowing of the fetal heart beat is noted, the diagnosis of anoxia should be made. If anesthetics are being administered, they should be stopped and 100 per cent O should be given by inhalation. If the condition is not corrected in a few seconds, delivery should be hastened. Many physicians routinely give 100 per cent O to the mother during the latter part of the second stage.

After birth the cord should be allowed to pulsate as long as it will before being cut.

Gentleness is essential in all measures of resuscitation. Lowering the head is in order for drainage of mucus from the mouth and trachea, unless there is reason to suspect intracranial hemorrhage. Transfer to a heated crib or incubator for other procedures or wrap the infant in warmed blanket. The mouth and pharynx cleaned with bulb suction or suction and catheter. Relaxed tongue, soft palate, etc., may require that a tracheal catheter be inserted into the trachea for aspiration of material. O may be given by catheter, hose, cone, or tent. The lower jaw should not be depressed because that obstructs respiration. If completely apneic use gentle mouth-to-mouth breathing. Intratracheal catheterization requires trained operators.

Artificial respiration by pressure on the chest wall is of no value in an infant who has not taken a breath: the alveoli are collapsed and there is not enough recoil of the chest wall to overcome this cohesion.

Mechanical resuscitation of some sort should be carried out at a rate of 20 to 30 times a minute until the infant is making regular and fairly deep respiratory movements. If this does not occur in an hour intracranial hemorrhage, foreign matter in the lungs, defects of development, or severed spinal

¹ L. R. O. Harris, M.D., Mobile, in *Jour. Med. Assn. Ala.*, May.

cord should be considered.

Mild asphyxiation may require only gentle patting or a few drops of cold water. No drug will initiate breathing of an asphyxiated baby. After respirations have started caffeine or epinephrine may help by bringing more oxygenated blood to the embarrassed medulla.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

WHAT ARE THE CAUSES OF MENTAL ILLNESS AND EMOTIONAL DISORDER?

PSYCHIATRISTS differ in their views of heredity as a cause of mental diseases. It is accepted that genes (fine particles in the nucleus of the germ cell) are the agents by which traits are handed down to offspring. *Dominant* characteristics are traits which appear through successive generations somewhat uniformly; *recessive* characteristics are those which recede and disappear in time. The mating of a normal person with a person of recessive characteristics will usually result in normal offspring. Characteristics which, for many generations, have not been in evidence may crop up when a certain combination of genes is brought about. It is evident that body build, shape of nose, color of hair and eyes, artistic temperament and unusual intellectual ability characterize certain family stocks. It is, therefore, not surprising that liability to mental defect is also transmitted to offspring. Fortunately, most abnormal genes are very rare; and though certain mental illnesses and certain cases of epilepsy are traced to heredity, but heredity is a factor in fewer such cases than was formerly believed.

The Atom Age's multitude of labor-saving and time-saving devices enable man to achieve under strain as much in a half-day as his great-grandfather turned out in ten days. If an individual predisposed to mental disturbance attempts to gear his activities to the swift tempo of the times, it is a sure sign, on the one hand, that in his insecurity and emotional disturbance, the strain and stress of his way of life are only symptomatic of his predisposition; whereas, on the other hand, if he suffers a breakdown, the overwork will have proved only a precipitating cause.

There are at least four critical periods in the life of a human being when the biological processes are undergoing significant changes. In each of these illness is prone to develop. Though before the child reaches the age of ten, mental illness is rare, at this time the individual seeks to adapt himself to a new mode of living. During or shortly after child-birth there is a greater incidence of mental disease. With the climacterium or involutional period occur

the cessation of the menses, with attendant troublesome nervous symptoms in most women, and general changes in the sexual life of the male. In some cases the psychical changes are grave, even to the severe depression now called involutional melancholia. Senescence often bring a feeling of unhappiness, insecurity, anxiety, a sense of being a failure, in addition to the signs of wearout generally.

Syphilis, acquired and congenital, accounts for 10 per cent of the admissions to state hospitals for the mentally ill.

Deterioration of the personality is known to result from injuries or wounds inflicted upon the head. Psychoses, delirium and mental decay are directly the result of some head traumas.

Intoxications include both endogenous and exogenous. The former have to do with the effects of infections, as pneumonia, poliomyelitis, encephalitis, influenza, acute rheumatism and blood-stream infections. The latter have to do with alcohol and other habit-forming drugs, including even bromides.

Occupation hazards include exposure to carbon bisulphide and many other liquids, gases and metals, particularly lead, as well as exposure to noxious influences found within the occupations themselves, which are sometimes predisposing causative factors in the development of mental ills.

Excessive thyroid activity can produce a psychosis. Psychoses are ascribed to Addison's disease, diabetes, disorders of the pituitary gland and multi-glandular disorders.

Kretschmer has pointed out the significance of associating specific physical and temperamental trends of the patient with a predisposition or potentiality for mental disease. This eminent psychiatrist contends that individuals with a long, narrow, flat trunk, bony limbs and thin neck are more likely to be poorly adjusted, to be shy, cold and sensitive, and a fair percentage of them show symptoms of schizophrenia. Short, stocky, obese individuals are subject to mood fluctuations, some of them likely to develop manic-depressive psychosis.

The introvert retreats within his own shell, is subjective in his interests and fails to cope with the problems of an external existence, while the extrovert is sociable and directs his interests to the outside world. Many persons do not fall into these or any other types, but represent variations and composites.

Patterns of living molded by the play of emotions apt to prove harmful are frequently the cause of disorders of the psyche. Mental factors account more commonly than any other factors for disorders of the mind. Fortunately, most of us succeed fairly in adjusting ourselves to the exigencies of life. Fortunately, too, defective genes are rare. If, however, those people who are predisposed to mental disorders prove sufficiently stable in combatting the

undesirable or noxious features peculiar to their environment, they are likely to encounter no marked difficulties of the psyche. Research enthusiasts of the present are becoming more convinced that the effects of environment upon the well-being of those predisposed to mental disease, and in fact, upon normal human beings as well, are more far-reaching than was formerly believed.

Basic patterns of emotional conflicts occurring in the home, in school, in the community and in various life situations are repeated endlessly. Though every one of us is in some way or ways maladjusted to certain conditions, and though each of us is at times subject to moods fluctuating between joy and sadness, between pensiveness and frivolity, when morbid and anxious emotional patterns become chronic, then it is that the delicate parts of the human machine cry out for relief. If such signs are not heeded, a cracking-up of the personality results. Guilt, feelings of inferiority, morbid fear, seclusiveness, frustrations, chronic anxiety and disappointments furnish causative factors of nervous breakdowns far more often than one realizes, for they take a toll of mental resistance and not infrequently disrupt the personality of the individual fighting against the hostile forces round and about him.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

OFFICE TREATMENT OF DIABETES MELLITUS
(M. M. Baumgartner, M.D., Janesville, in *Wisconsin Med. Jl.*, Aug.)

It is misleading as well as inaccurate to define diabetes mellitus as an insulin deficiency disease. Treatment is primarily dietary, with painstaking instruction of the patient in the control of symptoms and complications.

All of the manifestations of the disease are due to a failure of the tissues to utilize best the c.-h. made available from both exogenous and endogenous sources. The resultant wastage of glucose in the urine leads to an increased breakdown of proteins, and an accelerated oxidation of fats, decrease in the alkaline reserve, depletion of fluids, and a shift in the electrolytic tissue balance.

To determine what is adequate control of the disease, first comes the patient's general fitness.

The severity of the disease is not necessarily indicated by the height of the blood sugar. Glycosuria may appear after the blood sugar content has reached its peak and persist after it has returned to normal. Diabetic glycosuria does mean hyperglycemia past or present. Transient glycosuria is of little significance if the patient is otherwise in good health. If the individual has an infection the qualitative positive test should have a control. The patient can see this and be taught the proper steps to avoid diabetic accidents.

If more exact information is required, the quantitation estimation of glucose in the urine over any selected period gives a far better notion of the wasting than the height of the blood sugar at intervals.

A patient will not follow a diet long that contains food he dislikes. Ask the patient what he is accustomed to eat at each meal and arrange these items in a quantitative

form, eliminating pastries, sweets, etc. Adjustments are made so that finally the patient has a diet of his own choice.

An adult male of 5 ft. should weigh 120 \pm 5 pounds, 5 pounds more for each inch over 5 feet. A woman 5 ft. tall should weigh 110 pounds \pm 5 pounds, and the weight will increase 4 lbs. for each inch over 5 feet. The 24-hour calorie requirement at birth is 100 or more per Kg. of body weight, decreases rapidly at first; at puberty is 50 cal. For the adult at bed rest, 25 cal. per Kg. is required; 30 cal. at ordinary activity, and 35 to 40 depending upon the type of work. Adjustments always are made on gain or loss of weight after the diet is tried.

A diet is palatable if c.-h. is twice the fat, but other conditions may indicate either be higher, usually 0.7 Gm. protein per Kg. is prescribed. N balance can be maintained on much less. Children and hard workers may need 2.0 or 3.0 Gm. High-protein diets are ordered in most debilitating diseases other than renal insufficiency. In chronic infections it is difficult if not impossible to maintain N balance with any amount of protein.

Foods should be included in all diets to insure adequacy; especially with respect to minerals, vitamins and proteins. These amounts are minimal:

1 pint of milk, 1 egg, 1 serving meat (2 oz.), (no highly-seasoned or highly-spiced or processed meats), 4 servings vegetables (1 leafy), 2 servings fruit (1 raw), 1 tablespoon butter.

Calculations are not difficult when a standard diet form is used.

The glucose value of a diet equals all of the c.-h. plus 58% of the protein, plus 10% of the fat.

All insulin is the same unit for unit. The difference is in the speed of action and duration. The total daily dose is readily found by using regular insulin t.i.d. a.c. until glycosuria is controlled without reactions. One-half of the patients will do well with this total dose administered as a 2:1 mixture (2 parts reg. to 1 part p.z., globulin, or the new NPH insulin.) Half the remainder is controlled by diet alone, or with regular insulin occasionally when glycosuria appears. The remainder present problems in type of insulin to be used and in time.

Regular insulin is of particular value in controlling p.c. glycosuria, the depot insulins to control the night and early morning wastage. Mixtures of unmodified and modified insulin greater than 2:1 are frequently very satisfactory, but the technic of making mixtures is troublesome to some patients and multiple doses are preferred for them.

The treatment of diabetes mellitus should provide a maximum of physical fitness with a minimum of inconvenience and handicap to the patient. This demands art and skill as well as understanding and patience on the part of the physician. The elderly patient thinks of blindness and gangrene; the younger patient often feels he is a social outcast. A readjustment to life is necessary. The diabetic patient must be reassured and encouraged by the assumption that if his disease is properly controlled his general health will be as good as if he did not have the disease. He must be taught what to do in case of simple emergencies such as the extraction of teeth or respiratory infections. Workingmen must know how to pack their lunches; women must be instructed in what to do at social functions in order to avoid embarrassment. The qualitative test for glucose in the urine is not inconvenient, but the diabetic patient must appreciate when glycosuria is significant and when it is not.

CORTISON AND ACTH IN RHEUMATIC DISEASES

(J. T. BUNIM, M.D., in *Bull. N. Y. Academy of Med.*, Feb.)

ACTH and cortisone produce marked clinical improvement—frequently, in patients with rheumatoid arthritis and acute rheumatic fever; less frequently, in lupus erythema-

tosus; and least, in scleroderma and dermatomyositis.

The cases favorably affected by these hormones are suppressed but not arrested or cured. Relapse generally follows within a few days to weeks after the hormone is discontinued. Side effects due to excessive stimulation of the adrenal cortex by ACTH or to increased amounts of exogenous cortisone do not interfere with therapeutic effects, and are reversible.

COLCHICINE STILL BEST IN GOUT: BENEMID TO PREVENT CRIPPLING

(A. B. Gutman, New York, in *Bull. N. Y. Acad. of Med.*, Mar. It has been shown that uric acid is synthesized in the body at a lively rate from the simplest nitrogen and carbon compounds—ammonia, glycine, serine, formate and carbon dioxide, and is derived not only from preformed purines but from all proteins, fats and carbohydrates. Synthesis of uric acid does not require incorporation of uric acid precursors into nucleic acids.

Advances have already influenced thinking and experiment in the management of gout. The usefulness of dietary restriction is still unestablished but it seems prudent in patients with chronic gout and frequent recurrences of acute gout to limit the purine, protein and alcohol intake. In the treatment of acute gout colchicine, ACTH and cortisone are effective; prevention by regular administration of prophylactic doses of colchicine is important in patients subject to frequent attacks of acute gout. In chronic gout several effective uricosuric agents to prevent crippling arthritis and tophaceous deformities have been developed; of these the most useful appears to be Benemid.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

A NOTE ON THE DENTAL KEY

Sir Frank Colyer, F.R.C.S., in *Proc. Royal Society of Medicine* (London), Aug.)

The first knowledge we have of the dental key is in a paper published by Alexander Monro in 1742. The instrument illustrated in Monro's paper consists of a metal shaft fixed in a wooden handle, at the end of the shaft is a projection to which a claw is attached by means of a screw. Monro states that the instrument as received by him from Dr. John Fothergill of London had a metal handle, and that he replaced it by the wooden one of a gimlet shape. The key, as shown by Monro, is neatly constructed and it is unlikely that it is representative of the earliest stage of the instrument, as there are several examples in museums of keys of a much more primitive character and with open handles similar to those of many common keys.

An early stage, by 1760, in the development of the key was the addition of a metal projection to the shaft on the side opposite to the claw, the later being swung from the shaft. This piece of metal became known as the bolster and was the part which rested on the gun and formed the toclum.

In Perret's catalogue (1772) are illustrations of two useful alterations. The first is an arrangement which allows the claw to be used for the right and left sides, without unscrewing the attachment to the shaft. The second consists in fixing the claw by a sliding rod within the shaft. A feature of one of the keys in Perret, called by the name of *Frere Come*, is the handle, which is in the form of an elevator and can be unscrewed and used to lift the tooth after it has been raised with the key.

An important stage in the evolution of the key introduced by R. Clarke (1795) was introduction of a marked double bend in the shaft which relieved the tendency to

press against the tooth posterior to the one to be extracted.

The alteration introduced by T. Hardy in which the bolster was made sufficiently long so that the ends, which were padded, rested on the neighboring teeth and so took the pressure off the one to be extracted was far from satisfactory, as the pressure being transferred to the neighboring teeth resulted in a tendency to dislocate them.

The key was a favourite instrument with practitioners for well over 100 years, but fell into disuse when forceps were introduced with beaks fashioned to fit the necks of the different classes of teeth. It continued, however, to be advocated by Garretson in his *System of Oral Surgery* (Philadelphia) as late as 1890, for the removal of certain teeth; and it was used by a well-known practitioner as late as the early part of this century.

The common key may have been the forerunner of the dental instrument. The famous surgeon of Cairo, Clot-Bey, was in the habit of taking out molars by means of a common key and a piece of twine, an operation he performed with great dexterity and rapidity.

We find no mention of the key in William Salmon's *Arts Chirurgica* (1799). "The Mallets and Forceps for drawing Teeth" which are illustrated are copies of those in Sculpetus and Paré. Referring to the operation of extraction of a tooth he states that, "The Gums must first be opened with a *Fleam*, and the Flesh loosened round about the tooth. Then done, you must with Pincers, half-Pincers, Punces, or a Pellican, lay hold of the Tooth, and with a wary and gentle kind of forcing bring it forth."

Amongst the plates in a book by C. Bew (1819) is one depicting several old types of instruments for extracting teeth and amongst these is a very primitive form of key. At the end of the description Bew states, "This instrument was in use in the reign of Queen Anne."

THE HISTORY OF ACNE

OR, N. R. Grant, in *Proc. Royal Soc. of Medicine* (London), Aug.)

The ancient Greek physicians certainly recognized acne which they knew as *ionthoi*. That *ionthoi* were associated with puberty is implied in the meaning of this word in the singular, *ionthos*, which means "the first growth of the beard."

A good clinical description of rosacea occurs in Chaucer's sketch of the Sompnour in the Prologue to the *Canterbury Tales*.

* A sompnour was ther with us in that place,
That hadde a fyr-red cherubimis face,
For sawceleven he was, with eyen narwe,
As hoot he was and lecherous as a sparwe,
With scalled browes blake and piled berd;
Of his visage children were afred,
Ther was quik-silver, litharge ne brimstone,
Boras, crame, alle in the partie noon,
Ne oyement that coldene and byte,
That him mighte helpen of his welches whyte,
Now of the knobbes sittinge on his chekes,
Wel loved he garleek, onions and eek jekes,
And fur to drinen strong wyn red as blood.

This passage is also of interest in showing that the pharmacological armamentarium of those days did not differ significantly from that of today and that Chaucer recognized the association with, or aggravation by, spicy foods and strong drinks.

THE DIABETIC PHYSICIAN will live almost as long as the average physician, and he will live somewhat longer than the average diabetic patient. He should adhere to the hygienic practices that will keep him in the best physical and mental condition, in order to prevent renal complications and postpone as long as possible the lethal effects of cardiovascular disease.

R. F. Bradley, Boston, in *Jl. A. M. A.*, Oct. 7th

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As is true of most Medical Journals, all costs of cuts, must be borne by the author

Doctor Oren Moore

ELSEWHERE in this journal will be found recorded the most notable of the achievements of this good doctor—as a man, as a medicine man, as a churchman, as a collegian, as a citizen.

Here will be said something of him as a personality.

He joyed in excelling, but there was no particle of jealousy or envy in his nature; keen competition was to him but a stimulus to greater endeavor, and always his voice was raised in praise of the accomplishments of a worthy competitor.

His fund of humor and accomplishments as an orator made him in great demand in smoking-room and on platform, but no man ever heard from his lips a coarse remark, or a witticism that carried a barb.

His ideals were high, and he attained unto them. His was the life of The Gallant Happy Warrior.

Not for many a long day has the untimely taking off of one of our elect caused such sadness in our city, our county, and our State.

THE PROBLEM OF PSYCHIC VERSUS SOMATIC DISEASE

TWO MACON physicians¹ find it necessary to again call attention to the fact that service rendered to people who become sick is on a sounder basis if one treats the person as an individual rather than treating the illness, and to point out that, although the history may strongly suggest a psychic basis for the disorder, such an assumption must be made with caution. Cases are presented which illustrate how a clinician's judgment can be influenced for ill by an impressive history.

A 63-year-old white man, well until Sept., 1949, then began to complain of vague abdominal pain through to the back; complete x-ray investigations all negative. Pain of a few minutes to an hour several times a day, was such as to cause him to cry out loudly and thrash about wildly. He was referred to a gastroenterologist in another city in Jan., 1950, and after a thorough hospital study the following diagnosis was made: 1. Anxiety state. 2. Spastic bowel syndrome. 3. Malnutrition. His symptoms grew worse and on Feb. 24th, 1950, an exploratory laparotomy revealed inoperable carcinoma of the pancreas, with multiple metastases. In this case diagnosis of functional disease was made largely because of negative physical and laboratory findings.

A 61-year-old, diabetic for 15 years, always eccentric, had visions, predicted the future. Once she attempted suicide. Despite this, she was a respected citizen, the mother of six exceptional children. April, 1950, she began to complain of abdominal pain which by June was severe. She repeatedly told her family she had a cancer. All studies were negative and in October she was referred. After another thorough work-up she and her family were told that her diagnosis was psychoneurosis and it was carefully explained to the family that she complained of more pain than she was having in order to gain sympathy. She was transferred to a mental institution and after six electric shock treatments, she developed jaundice. During all of this time she continued to complain bitterly of abdominal pain. An exploratory laparotomy revealed inoperable carcinoma of the pancreas. At least three competent internists and two psychiatrists had been convinced that this woman's pain was not organic.

A 33-year-old lady began to have episodes of pain in the right cheek in April, 1949, chiefly when nervous or tired. The pain at first lasted for an hour, by October it was more constant. In January she noticed a gradual loss of vision in the r. eye, and the pain spread around the r. eye, up to the vertex of the skull, down to the ear, and into the r.

shoulder. Physical and neurological examination negative except for a central scotoma in the r. visual field, which strongly suggested a retrobulbar neuritis, and extreme tenderness over the right cheek. A tentative diagnosis of migraine was made.

Her mother died when the patient was three; her father remarried and would have nothing to do with this child, who was reared by an old maid aunt. At 16 she married and soon had a baby. Her husband drank heavily and left after the birth of second baby. The baby at the age of six weeks had an operation for pyloric stenosis; husband refused to pay expenses. She married a second time a "spoiled and immature man who never did a lick of work;" divorced after two years. She then married a man 30 years her senior, who could not stand children, drank heavily and finally ran the wife and children from the house with a shotgun. Next she married a divorcee with four daughters, and the six children all moved in with the newlyweds. She soon became pregnant and was three months pregnant when she presented herself.

Response to treatment for migraine was poor, and when she was again referred to a neurologist it was found that she had a mixed tumor of the parotid gland which had invaded the orbit.

The impressive life experiences of this woman apparently had nothing to do with the pain in her face or her malignancy, but certainly delayed an accurate diagnosis.

A 48-year-old business man in May, 1950, complained of sore throat of two months' duration, no fever or constitutional symptoms. He had seen four ENT specialists during the time; none found any evidence of local disease. The right lobe of his thyroid was believed to be slightly large, but was not tender. BMR plus 14.

It was brought out that he was under financial pressure, which had recently become acute. He was reassured and seemed to appreciate that his stress could result in persistent sore throat. By November he had developed typical myxedema and his thyroid could not be felt; BMR—35: sore throat persisted. Within a month he had returned to normal with thyroid therapy, sore throat had disappeared.

A 48-year-old woman in October, 1949, complained of chest pain, fatigue, and nervousness. At 35 "1½ ovaries removed," after which she did not menstruate. In 1943, she was treated at State Hospital for bromide psychosis. In 1946 a psychiatrist diagnosed paranoid schizophrenia with sex perversion features. Following psychotherapy she "made an excellent adjustment until December, 1948, when she was separated from her husband. Living alone, she feared another psychic breakdown, became agitated and depressed. In September, 1949, an episode of rather severe chest pain for one minute,

¹ H. H. Tift, M.D., & W. D. Hazlehurst, M.D., Macon, in *Med. Assn. Ga.*, Aug., 1951.

not typical of angina. Several believed that emotion not typical of angina, then several minor episodes, not due to exertion or eating. She believed emotion did not precipitate them.

Examination was neg., b. p. 115/80; urinalysis and sed. rate, ECG entirely normal; BMR—9.

She was told that her pain was the result of anxiety and was referred back to her psychiatrist.

In Feb., 1951, she had a large coronary occlusion which was fatal. Autopsy revealed a large recent posterior infarction and a small, old, well-healed anterior infarct.

These cases have not been presented as unusual cases. Such experiences are unfortunately too common. The diagnosis of "psychosomatic [or neurogenic] disorder should never be made on the basis of negative findings. Furthermore, when positive evidence of psychic disease is present, the physician must be most careful to exclude coexisting organic disease. Even when the latter cannot be demonstrated, the physician must keep an open mind. Reexamination and reevaluation at appropriate intervals is in order, not a premature conclusion of psychoneurosis. The error of labeling as neurosis a grave organic disease is hard to forgive.

THE MECHANISM OF "CONVERSION"

EVERY thinking person has wondered what could be the devilish process by which prisoners of the Russians could be made to confess to atrocities and crimes they could not possibly have committed, and how persons hitherto sensible, could be converted to belief in the Marxian tenets as exemplified by Lenin and his successors. A British psychiatrist¹ sheds much light on this subject.

Religion, politics, and psychiatry often face a common problem—that of seeking the most effective means of bringing about rapid changes in an individual's beliefs and actions and afterwards trying to stabilize them. The world now finds itself facing ideational conflicts, the outcome of which may decide its fate for centuries. The problem of the psychiatrist and his patient, of the religious leader seeking to gain and hold new converts, has now sometimes become the problem of groups of nations who not only wish to maintain certain beliefs within their boundaries but to gain fresh adherents to these beliefs from without.

Recently Mrs. Charlotte Haldane pleaded that urgent psychological research should be undertaken into the mechanisms of the process by which she, the intelligent wife of a well-known British scientist, was converted to belief in Russian interpretations of Marxian dialectics, and, having accepted and followed these for many years, why the falsity of the whole system became apparent to her in an equally intense reconversion experience. Others

have described the same type of happening in their lives. One may be made by certain methods to believe and proclaim to the world that his past actions and ideas have been wrong and worthy of death, though shortly before he had thought them to be both right and honest.

Examples of the same process are one who comes to believe that a life of good works has not only been useless, but even accompanied by the perils of eternal damnation, because acceptance of one particular religious attitude has been neglected: or one who, after being subjected to psychoanalysis, is convinced that his past behaviour has been due to an intense underlying hatred of his father, though he has always felt and acted in a devoted manner to his father.

Some of the phenomena witnessed during the treatments of war neuroses have many basic similarities to those of sudden religious conversion. After the war an opportunity suddenly presented itself of seeing at first hand in the U. S. A. some of the more violent and radical religious conversion methods still practised in parts of that country.

A group of Pavlov's dogs conditioned after months of patient work were trapped accidentally in their cages during a flood; when rescued they were swimming about, their heads just above the water. After being rescued some of them passed abruptly into a state of stupor; the fear and excitement had proved to be beyond the capacity of their nervous systems to deal with adequately, and had brought about "protective" cortical inhibition.

Tested again, after the inhibitory activity had passed off, it was found that those showing this switch-over from profound excitation to severe inhibition had had many of their recently implanted conditioned reflexes abolished. Those dogs which had responded to their experience with strong excitement only were much less affected.

Pavlov eagerly followed up this chance observation, for it seemed to provide a new and speedy means of breaking up implanted behaviour patterns in the nervous system, and in some of the dogs a completely new set of conditioned reflexes could be substituted with the abolition of the old. The weakest of the animals, however, were made permanently unstable by this experience; they were never able again to be reconditioned satisfactorily. Even in those in which a later satisfactory reconditioning was achieved, marked sensitization to their traumatic experience remained.

These findings may be relevant not only to the mechanics of a sudden conversion process but to an understanding of parallel findings in psychiatry after the use of drug abreactive techniques, shock treatment, etc. They probably also help to explain the building up of what psychoanalysts have termed "transference" situations that arise between therapist and patient during treatment.

¹ William Sargent, in *British Med. Jour.*, Aug. 11th.

Psychiatrists outside Russia have paid far too little attention to Pavlov's repeated emphasis on pathological activity of the cortex that occurs whenever the nervous system is stimulated, either psychologically or physiologically, beyond its particular limits of tolerance. Uncontrolled excitement may supervene, but more commonly the cortex imposes protective inhibition. This inhibition presents three phases; an "equivalent" phase, when all stimuli produce the same response; a "paradoxical" phase in which small stimuli produce a greater response than larger, the latter now serving only to increase inhibition; and a third when positive conditioning suddenly becomes negative and negative conditioned reflexes become positive.

Pavlov thought that these various types of inhibitory phenomena helped to explain hysterical and other abnormal behaviour in man. Ample confirmation of his findings was afforded clinically by our experiences with acute battle neuroses in the last war.

Temporary complete reversals of behaviour pattern, in which positive conditioning became negative and vice versa, are also commonplace in severe psychiatric illness in civilian practice. As positive conditioning becomes negative, ideas previously scorned may become suddenly acceptable, previous emotions of pleasure those of disgust, friends become enemies. Once hysterical behaviour has been produced those subjected to excitement or fear exhibit an increased suggestibility.

Some animals proved remarkably stable under stresses. Patterns of behaviour might be disrupted only when physical debilitation or castration, for instance, had weakened their nervous stability; then the new patterns implanted proved most difficult to remove after time to adjust to castration or recover from the debilitating process. The basic nervous strength of the animal now perpetuated the new patterns.

A similar precipitation is also seen in humans, most likely to happen in previously stable personalities subject to stress.

Sometimes in psychoanalysis the patient is placed on a couch daily, over the course of months or years, and as many past sources of terror and frustration as can be endured by the patient are brought to the surface by a process of "free association" directed by the therapist towards these experiences. As the analysis proceeds, emotional storms mount and the patient becomes more and more sensitized to the analyst. Transference situations, both positive and negative, begin to be built up. Physical debilitation may occur in the early stages of treatment because of the anxiety deliberately aroused. Finally a stage is reached when "resistance" to the particular psychotherapist's interpretation of the patient's symptoms is overcome.

Possibly far-fetched explanations are at last believed in and acted upon by the patient.

These explanations would generally have been totally unacceptable prior to treatment and often diametrically opposed to previous beliefs. Many of the individual's patterns of behaviour may also be destroyed under this process, allowing new ones to take their place.

Some patients might remember and emotionally relive a disturbing incident with no therapeutic effect. If during a subsequent abreaction, excitement of a much greater degree of intensity could be aroused about the same experience, and emotional release was forced to a point in which the patient showed collapse and cortical inhibition, relief might be immediate.

The two most disruptive emotions, and those producing the best therapeutic effects proved to be terror and anger.

Few attempts were made to alter a patient's original beliefs and outlook. Our efforts were directed towards restoring as far as possible previously established attitudes by destroying more recently acquired ones. But, as treatment proceeded, a growing transference between the patient and the therapist generally occurred, with the more ready acceptance of new viewpoints and a temporary increased state of suggestibility.

Both the psychoanalytic method and drug abreaction have limited applications. They are most effective in persons with only a fair degree of previous stability. It may be significant that both abreaction and convulsion therapy can be most effective when nervous excitement is carried to the degree of total cortical inhibition supervenes as in the Leningrad flood.

Older methods, such as ducking and swinging stools, the firing off of guns, and other methods of producing terror states in the mentally deranged, would hardly have been used by psychiatrists of the past if good results had not sometimes occurred. The induced vomiting which helps to build up a conditioned aversion to alcohol can be used to produce other effects.

This technique is applied to chronic tension states and obsessional neuroses, which prove so resistant to ordinary abreactive techniques and shock therapies, because the strong excitation aroused does not readily switch over to inhibition.

Carrying our study into a field where for centuries people have been made to accept new standards and achieve sudden reorientations of thought and action, we may learn much more about the possibilities of the implantations of new religious beliefs as well as of destroying others. During a year spent in the U. S. A. in 1947-8 it was possible to witness some of the more violent forms of conversion practised there, examples of which were

also fairly common in Britain up to a hundred years ago.

Three different religious groups visited were found to use the same underlying method—disruptive excitation. One group relied on noise, group excitement, and continuously-repeated exhortations by "evangelists" working in relays, also helped by those who had already attained conversion.

The final stage might be accompanied by an incoherent jargon "the gift of the tongues." The production of sudden collapse is referred to by this group as "wiping the slate clean."

Poisonous snakes were used by another group. Passed from hand to hand by those already having faith, the snakes were employed with great effect to hasten the production of convulsive states of mounting tension and excitement. With such methods a state of stupor lasting hours or even days might occur, the convert finally emerging with a new outlook, or at least much more ready to accept one.

A negro group employed jitterbug dancing as an effective excitant, stimulated to it by mounting noise, excitement, rhythmic beating and singing, continued for up to three hours until mental dissociation or collapse supervened. During this time they were subjected to exhortation and repeated simple statements about the beliefs desired of them. Fasting was also employed in those resistant to conversion. Up to nine days on bread and water in a prayer-room, or complete fasting for up to three days, before attendance at a faith-healing meeting, was reported. A negro person could only say that he found some people believed more easily on an empty stomach.

People with dogmatic beliefs themselves obtain greater success with such methods, because they are more sure about what they wish other people to believe. In modern psychiatry it also proves easier to implant authoritarian beliefs, such as are provided, for instance in the Freudian discipline; and presumably a similar state of affairs exists when Marxian dialectics are involved in a conversion process.

JENNER'S COWPOX INOCULATION

(A. W. Downie, Univ. of Liverpool, in *British Med. Jl.*, Aug. 4th)

In the first eight years after its introduction in 1721 only 897 were inoculated for smallpox in England, and of these 17 died. In the next 10 years inoculation was apparently little practised, but was again resorted to in England, apparently because of reports of its success in America. From 1751 variolation made uninterrupted progress, helped by a powerful sermon by the Bishop of Winchester in 1752 and by the approval of the College of Physicians. At this time the method of inoculation and the care of the patients was such that the death rate from inoculated smallpox was less than 1 in 200.

In spite of his success as an inoculator, Dimsdale (1781) later condemned the practice: "Though the loss under in-

oculation is very inconsiderable . . . yet by spreading the disease, a great proportion take it in the natural way; more lives are now lost in London than before inoculation commenced." With the improved methods the fatality rate from inoculation towards the end of the 18th century was estimated at 1 in 250 to 1 in 500.

It is little wonder, therefore, that Janner's method should have been so eagerly accepted *cowpox* inoculation as an alternative to variolation.

From the infection of horses, *equine* strains of virus were brought into use for inoculation against smallpox by Jenner and workers on the Continent.

Vaccination (vacca—a cow) was carried on from arm to arm, and it appeared that as a result the virus became uncertain in its effects. Fresh strains from affected cows, or from milkers directly infected from cows, were introduced by Estlin (1837-8) and others. Such new strains produced much more vigorous local reactions, which took longer to heal and were frequently accompanied by fever and axillary adenitis. Estlin (1839) noted that after 48 removes from the cow his strain had lost much of the activity it possessed when only 15 removes from the cow. Ceely tried retrovaccination of the cow in an attempt to rejuvenate stock strains of "humanized" lymph; but in this country it was not until near the end of the 19th century that virus propagated in the skin of calves received official approval for the preparation of vaccine lymph.

The viruses now used for the preparation of vaccine lymph in various establishments throughout the world, although possibly derived from cowpox, horsepox, or variola, are very much alike and are all referred to as vaccines.

Although compulsory vaccination has recently been abolished in this country (England), we still recognize the great value of vaccination in protecting those exposed to infection; and Jenner's vaccination is an essential part of the procedure adopted to prevent the spread of smallpox in this country when infection is introduced from abroad.

TUBERCULIN TEST STANDARDIZATION

(S. W. Simon & Lila Rinard, Dayton, in *Ohio Med. Jt.*, July)

Of all diagnostic skin tests, none is less standardized as to procedure and interpretation than the tuberculin test, although it is probably performed more times than all the others put together.

The patch test is given at the same time as the Mantoux. The Mantoux is given on the volar surface of the forearm. First strength purified protein derivative (standard), 0.1 c.c. (0.00002 mg.) intradermally. The Vollmer patch test is applied to the skin over the scapula, cleansed with acetone (ether or benzene). When dry the patch is applied firmly to assure good contact, to hairless area (shave if necessary), free from blemishes. The patch is kept dry during the 48 h. it is in situ. On removal the first reading is made of both patch and Mantoux; a second reading is done 48 h. later. If neg. see again at 6-8 d. Second-strength purified protein derivative is not used, as a 1-plus or a 2-plus to second strength merely confuses.

The Mantoux reactions were read according to Interpretation Criteria of the National Tuberculosis Association. A positive patch reaction is anything from vesiculation of the whole square down to a single vesicle within the circumscribed area.

Agreement between the two tests—in 97.3% proven tuberculosis and in 85% of the controls. Mild reactions on dark skins usually require a magnifying glass.

The Vollmer patch test is not satisfactory on a person with a parchment-like skin, or on a person who perspires profusely; insufficient antigen is absorbed.

If the patient has an elevated t. and the tuberculin test is desired, an intradermal test is better than a patch test. We use both regardless.

NEWS

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE

A series of conferences arranged especially for general physicians will be held in the academic year, 1951-1952.

"Obstetrics and Gynecology in General Practice" will be the subject of the first conference, October 19th-20th, 1951; "The Management of Common Traumatic Injuries," on January 11th, and a conference on "Infectious Diseases," April 4th, 1952.

Dr. Walter O. Klingman has been promoted from Associate Professor to Professor of Neurology and Psychiatry. Other promotions recently announced are those of Dr. Kenneth R. Crispell to Assistant Professor of Internal Medicine, Dr. Hans Hoch to Assistant Professor of Biochemistry, Dr. Preston B. Lowrance to Assistant Professor of Internal Medicine, Dr. Robert A. Kelley to Assistant Professor of Urology, Dr. Clifford Gaddy to Instructor in Internal Medicine, and Dr. Donald Ferguson to Instructor in Internal Medicine.

Announcement has been made also of the appointment of Dr. William H. Wood, Jr., and Dr. Armistead Page Booker as Clinical Instructors in Pediatrics.

Dr. Myron M. Nichols, formerly Instructor in the Department of Pediatrics of the University of Arkansas and Pediatric Consultant to the Arkansas State Board of Health, began serving July 1st as Instructor in Pediatrics.

Dr. William Edmund Craddock, Radiological Registrar of the X-Day Department, University College Hospital, London, England, joined the faculty in July as Instructor in Röntgenology.

Under a research grant awarded the School of Pathology by the U. S. Army, for a period ending May 31st, 1952, Dr. J. F. A. McManus will direct a "Histochemical Study of Repair."

Dr. J. Hamilton Allan, Chairman of the School of Orthopedics, has returned from a four-weeks tour of the Far East Command where he served as a consultant to the Surgeon General of the Army, and visited orthopedic patients in Military Hospitals in Japan, Korea, the Philippines Islands and Okinawa.

A portrait of Claude C. Coleman, M.D., Sc. D., F.A.C.S. will be presented to the Medical College of Virginia, on Wednesday, September 26th, at 4 p. m., Barchi Auditorium, Egyptian Building.

Tributes will be paid Dr. Coleman by Dr. I. A. Bigger, Dr. J. Morrison Hutcheson and Dr. John Bell Williams.

The address of acceptance will be made by Dr. William T. Sanger, president of the college.

DUKE UNIVERSITY SCHOOL OF MEDICINE AND DUKE HOSPITAL

During the past six months, the retail value of certain drugs dispensed to the patients on the wards has been as follows:

Penicillin	\$20,000.00
Streptomycin	9,263.00
Terramycin	7,865.00
Aureomycin	3,574.00
Corticotropin	2,886.00
Chloramphenicol	2,563.00
Cortisone	1,092.00

DUKE UNIVERSITY SCHOOL OF MEDICINE and DUKE HOSPITAL announce a Series of Autumn Lectures sponsored by the North Carolina Academy of General Practice, October 19th, October 27th, November 10th.

PETERSBURG, VIRGINIA, was the first locality to establish a board of health. This was in 1780. New York had one of some sort in 1796, Baltimore in 1798, and not till 1799 did the town of Boston make such provision for the protection of the health of its people.

Robert P. Harris collected nine cases of cattle-horn Cesarean Sections and an additional one in which an Indian woman was gored by a bison. Six mothers and five babies recovered. Harris, a Philadelphian, states with apparent glee, that the best that New York surgeons had been able to do, up until that time, was one recovery in 11 operations. Harris wrote some 51 articles upon the subject, collecting cases from all over the U. S. and statistics from all over the world. One Louisiana operation had three claimants and it took Harris eight years and an extensive correspondence over two continents to straighten it out. In connection with this case he wrote to Howard A. Kelly, and ended his letter with the following sentence: "It shows what great liars we have in our profession."

M. P. & F. M. Rucker, in *Bulletin of the History of Med.*, March-April, 1951.

DIED

Dr. Oren Moore, 65, nationally known obstetrician and gynecologist, died at Presbyterian Hospital, Charlotte, N. C., August 29th, after a few weeks of declining health. He underwent an exploratory operation July 24th and recovered sufficiently to return to his home at Charlotte. He gradually weakened and four days before his death he entered the hospital.

Dr. Moore, born in 1886 at Pineville, was a grandson of the late Dr. Mason Strong, who practiced medicine in the Steel Creek section of Mecklenburg for a half century.

Dr. Moore obtained his higher education at Davidson College and North Carolina Medical College, graduating from the Medical College in 1911. He took post-graduate work at McGill University, in Montreal, and the University of Pennsylvania and of New York. On his return to Charlotte, he was associated in practice with his uncle, Dr. Charles M. Strong, and became associate professor of gynecology at North Carolina Medical College. Subsequently, he practiced his profession at Charlotte. He attained positions of prominence in this city's and North Carolina's medical, social, civic, religious and educational affairs. He took a leading part in many activities of the Presbyterian Church.

Dr. Moore was a member of the Medical Society of the State of North Carolina, and of the American Medical Association from 1912 until his death. He was elected president of the State Society for a one-year term in 1945. He was named last May as chairman of this society's committee on grievances. In 1949, he was elected to the office of president-elect of the South Atlantic Association of Obstetricians and Gynecologists, serving as president the next year.

Dr. Moore was chief of obstetrics and gynecology at Presbyterian Hospital, a member of Memorial Hospital staff on these specialties, and a member of the advisory staff of Good Samaritan Hospital, all Charlotte institutions. For many years he was a consultant at Camden Hospital, Camden, S. C.; Conway Hospital, Conway, S. C., and Davis Hospital, Statesville.

He was active in the affairs of Davidson College, his alma mater, was a member of the athletic committee many years, a member of a special committee which selected a president for Davidson, and at the time of his death was a member of the Davidson College Board of Trustees.

In addition to being a leader in the American College of Surgeons, Dr. Moore for years held membership in the Tri-State and the Southern Medical Associations, the South

Carolina and the Florida Obstetrical and Gynecological Societies, of which he was an honorary member; the American Association of Obstetrical, Gynecological and Abdominal Surgeons, of which he was an executive committee member this year; and the American Association for the Study of Sterility.

Dr. Henry A. Christian, 75, professor emeritus of physic in the Harvard University Medical School, dean 1908, 1912, died of heart disease August 24th at Whitfield, N. H., while on vacation. An authority on the treatment of heart disease, Dr. Christian was a member of the Harvard faculty for 40 years and was physician-in-chief of Peter Bent Brigham Hospital, Boston, for 29 years. He joined the Harvard faculty in 1903 as an instructor in pathology and retired in 1939 as professor of physic emeritus. Three years later, however, he was recalled for service during World War II.

Dr. Christian was a native of Lynchburg, Va.; he was graduated A.B. from Randolph-Macon College in 1895 and received his medical degree from Johns Hopkins University in 1900, and his A.M. from Harvard in 1903.

Dr. Carroll G. Bennett, 47, Martinsville, Va., died August 10th. A native of Franklin County, he attended Randolph-Macon College and the Medical College of Virginia, receiving his M.D. degree in 1928. Dr. Bennett practiced at Bishop, Va., for 15 years, moving to Martinsville in 1947. He was a member of the Tri-State Medical Association.

Dr. Henry Clay Cowles, a graduate in letters of the University of North Carolina, 1900, and in medicine of Columbia in 1903, died at the Moore General Hospital at Pinehurst, September 9th. After many years of practice in New York in obstetrics and gynecology, Dr. Cowles retired a few years ago and had since made his home at Pinehurst.

DR. GEORGE R. GISH, JR., announces his association with DR. EDGAR F. FINCHER and DR. HOMER S. SWANSON in the practice of Neurological Surgery. Emory University Hospital, Emory University, Ga.

EXTRARENAL AZOTEMIA

(R. O. Gochi, Grand Forks, No. Dak., in *JL-Lancet*, Jan.)

Uremia would be discovered more frequently if a blood determination for N were always made in the case of every toxic-appearing patient.

Conditions in which uremia not of renal causation may occur are: coronary thrombosis, peritonitis, alkalosis, pyloric obstruction, liver-kidney syndrome, gastro-intestinal hemorrhage, postoperative complications, congestive heart failure, reaction to transfusions and intravenous therapy, Weil's disease, Addison's disease, pneumonia, allergy, diabetes mellitus, shock, acute pancreatitis, diarrheal disease, drug intoxication, and burns.

A summation of the clinical picture along with the all-important laboratory studies are usually conclusive. The striking clinical improvement and the rapid disappearance of the uremia with IV saline and glucose usually gives us the final proof of the diagnosis.

The treatment of extrarenal azotemia in almost all cases is best accomplished by IV Na Cl sol. with or without glucose. The oral administration of fluid cannot be relied upon. Moderate amounts of glucose sol. IV may suffice to lessen protein destruction and to combat starvation acidosis, but large quantities of saline solution are usually required. If food is tolerated, small feedings q. 2 h. of concentrated fluid or semisolid carbohydrate. Antispasmodics of the belladonna group are often of value.

BOOKS

RENAL PELVIS AND URETER, by PETER A. NARATH, M.D., F.I.C.S., Adjunct Professor of Urology, New York Polyclinic Medical School and Hospital, *Grune & Stratton*, 581 Fourth Ave., New York 16, N. Y. 1951. \$12.50.

The author has been so impressed with the lack of acquaintance with basic sciences leading to erroneous diagnoses as to cause him to write a book strongly emphasizing certain basic facts with which he found too few to be well acquainted.

The embryology of the ureter and pelvis is first given in order to make anomalous development understandable. Then we have the final form of the parts with their anomalies and malformations, the dynamics of the upper urinary tract, the tonus of the urinary tract, resorption and absorption in the upper urinary tract, various forms of extravasation, and the röntgenography of the upper urinary tract.

All the description is given with a view to clinical application. One need not hesitate to join with McCarthy, who, in the foreword, recommends "not the casual perusal of this masterful work, but its profound study."

TECHNICAL METHODS FOR THE TECHNICIAN. Fourth Edition, by ANSON LEE BROWN, B.A., M.D., President of Anson L. Brown, Incorporated, Successor to Dr. Brown's Clinical Laboratory and Dr. Brown's School for Technicians, Columbus, Ohio. Printed by *Anson L. Brown, Inc.*, 41 S. Grant Ave., Columbus, Ohio. 1950-51. \$10.00.

Of the multitude of books on diagnostic technical methods, the vast majority say either too much or too little. This book seems to strike a happy mean. The technics are given, step by step, in such a plain way that it were almost impossible not to understand. A feature of value which could well find a place in books written for doctors of medicine is that of "Spelling Words of Importance."

ONLY 30 CASES of coexistence of sarcoma and carcinoma of the uterus have been reported in the English literature. A case is here reported of two independent tumors within the same uterus, one a typical sarcoma, the other a low-grade adenocarcinoma.

—R. I. *Medical Jour.*, June.

ABUSE OF ALCOHOL.—A one-year study in a typical community revealed that ethyl alcohol was a contributing or responsible factor in 68 (27%) of 246 consecutive cases of violent death.

—D. M. Spain et al., in *JL. A. M. A.*, May 2th.

Tensilon Chloride "Roche," a new, potent curare antagonist which acts within one-half to one minute, has just been announced by Hoffmann-La Roche. Tensilon is useful whenever a curare antagonist is needed either to terminate the action of curare when no longer required or to counteract overdosage. Tensilon is also a potent antagonist for d-tubocurarine, Flaxedil and diethyl-tubocurarine (Metoboline or Mecostin). It is ineffective against Syncurine and Mytolon.

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15%, by volume Alcohol

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Sodium Salicylate, U. S. P. Powder...	40 grains
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Caffeine, U. S. P.	4 grains

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"A DOCTOR WHO SPECIALIZES IN ME"
THAT'S WHAT WE want, WHATEVER WE MAY THINK WE
WANT
(Westchester, N. Y.) Medical Bulletin via Penn. Med. Jl., April)

Recently we listened to the plight of a lady in search of a doctor. A widow past middle age, but not elderly, she lives alone, comfortably but not luxuriously. Convinced by her daughter, living many miles away, that she should have a "check-up," she was admitted to one of the best hospitals in New York City and, as she said, "put on the assembly line." At the end of the line, the readings were "duodenal ulcer—old, inactive; diverticulitis; scoliosis—moderate; heart—enlarged slightly." These findings were communicated, as such, directly to the patient with some reassurance, but she was advised to put herself in the hands of a "gastroenterologist." The directory of specialists was consulted, but no gastroenterologist, as such, was registered in her own community. There was, however, one in a neighboring town or, failing that, she might settle for a "certified internist" in her own town.

She consulted us to find out how the "certified internist" combed his hair and, more particularly, would he make a call in the middle of the night if she needed him. She needed a doctor once at 4 a. m., although reluctant to call him, when she had a colic from a ureteral calculus. We knew the "certified internist"—a very fine doctor; but we would not care to vouch for his availability in the small hours of the night; she had better ask directly.

"You know," she said, "I don't think I need a *specialist* for my stomach; I need a *doctor* for myself!"

We wondered, too, if after that "complete work-up" the "specialists" might not have referred her to a lowly GP for further management. We wondered if medicine will ever see the day when competent general practitioners, working with consultation and co-operation from qualified specialists, when deeded, will minister to most of the ills of mankind.

PYOGENIC ARTHRITIS

Arthur Sternlieb, M.D., in *Bul. N. Y. Academy of Medicine*, Feb.)

Be on the alert for metastatic joint lesions in all cases of generalized infection, particularly of the exanthemata of childhood, such as measles, or scarlet fever. The antibiotics have removed the condition from the group of dire emergencies and they make it possible to choose the appropriate time for joint surgery in keeping with the general condition of the patient. It is doubtful that either the antibiotics or penicillin or any other of the molds have made surgical interference dispensable. Cases are cited in which a delayed drainage was responsible for destruction of the joint even though the condition was fully controlled by antibiotics and general measures.

Osteomyelitis seems to be more amenable to antibiotic treatment in the sense that the reparatory changes can still set in at a later date and advance to full restitution. In the septic joint damage to the cartilage occurs so rapidly that even a slight delay in surgical interference, particularly in the adequate evacuation of the joint, may allow the doing of irreparable damage.

COLONIC PAIN AND THE COLON NEUROSIS

(Chas. Seward, in *Edinburgh Med. Jl.*, Jan.)

The diagnostic terms "mucous colitis" and "mucomembranous colic" prevent understanding of the syndrome they are intended to describe, whilst the term "spastic or irritable colon," though not so bad, also has its dangers. "Colon neurosis" is the condition we have hitherto understood by these titles.

Under natural conditions evacuation should probably take place after every substantial meal.

The subject of colon neurosis does not die but lives long.

often draining the vitality, sympathy, and understanding of both doctor and family. In such subjects one must search for stresses or worries, great or small, but too much for the patient.

Those cases of irritable or spastic colon of psychogenic origin constitute the majority.

The life style of the patient, the manner of his reaction to difficulties, can be but little altered by the time we see him, but he may perhaps be persuaded to order it better, to take upon himself less responsibility and to avoid fatigue and cold.

THE SYNDROME OF SPONTANEOUS HYPOVENTILATION
(Wm. Kaufman, Bridgeport, Conn., in *Mississippi Valley Med.*, *Jl.*, Sept.)

Spontaneous hypoventilation is induced by psychogenic influence, slowing the respiratory rate, or decreasing the range of movement of respiratory muscles. There are good reasons why hypoventilation has been overlooked: (1) the doctor hasn't known what to look for; (2) the sequelae so dominate the picture that the physician is so busy trying to relieve the alarming symptoms that his attention is distracted from making careful observations on the patient's manner of breathing; and (3) we no longer seem willing to rely on our clinical observations in making a diagnosis.

The diagnosis rarely can be made by laboratory means, it can be made only by carefully inspecting the rate and amplitude of his ventilation when he does not suspect that his breathing is being observed.

Called in the night to a patient who seems to be suffocating, complains of forceful heart action, p. rapid, patient anxious, sweating, pupils dilated, swallows air frequently, and belches.

Patient's breathing goes through many cyclic variations. He exhales less air than he inhales.

If you know about spontaneous hypoventilation you will be anxious. You know not what to do to relieve the patient. At once begin talking to him. Say "you've forgotten to exhale. Forget about getting the air into your lungs. Exhale as deeply as you can, hen inhale." Get him to exhale a few times, then inhale, he will lose his air-hunger, color will improve, he'll stop being anxious and panicky, heart will beat normally; get him to breathe out, then in, four times to 1 seconds. The important thing to remember: he must exhale. Never mind about inhaling, that will take care of itself. Warn him of the possibility of symptoms from hyperventilation, since in his enthusiasm to prevent hypoventilation he might go to the opposite extreme.

People unconsciously hold their breath when they expect to hear bad news, to be punished, or to hear loud noise, or when they make some unusual physical effort.

The writer is seeing many patients who have developed hypoventilation because their sons are fighting in Korea, and they expect at any time to be notified that their boys have been wounded or killed. Guilt is the psychic state which causes acute hypoventilation most frequently, in families where an ailing parent is a burden, the wish that the elderly person may die soon; when he does die, there is the remorse for the "death wish."

Hypoventilation is seen in the person not happy in his job. Breathlessness often results from breath-holding during exertion. In old persons, hypoxia from breath-holding or hypoventilation may precipitate myocardial infarction without coronary occlusion.

In chronic hypoventilation the amplitude of expiration are equal but diminished. Such a person complains of not feeling well, usually wants wide open windows, and likes outdoor work or exercise. Chronic anxiety is often a sequela of chronic hypoventilation. There may be abdominal,

chest or diaphragmatic pain from sustained contraction of respiratory muscles. These symptoms are corrected when the person can be taught to breathe four times every 15 seconds with normal amplitude.

THE FORGOTTEN TEST

(J. F. Briggs, St. Paul, in *Jl. Lancet*, April)

Neither an x-ray film nor a positive Mantoux test along with an abnormal chest x-ray shadow will in any way constitute a diagnosis of tuberculosis. The ultimate proof is in the demonstration of the tubercle bacillus. Too often the report of "possible tuberculosis" or "rule out tuberculosis" or "suspected tuberculosis," made by the roentgenologist, is accepted in toto by the physician as a diagnosis in fact. The result of acceptance of such x-ray diagnosis is an increase in the tuberculous infection rate in many communities.

If the individual whose chest x-ray suggested tuberculosis to the roentgenologist has a negative tuberculin reaction, we can exclude the diagnosis of tuberculosis. Should the test be positive, clinical, laboratory and further x-ray investigation should be instituted to establish or exclude the diagnosis.

So valuable has the tuberculin test become as a diagnostic procedure that every physician, regardless of his specialty, should feel obligated to apply the test on every new patient. He should also feel obliged to have an x-ray film of the chest on every new patient.

SOME ASPECTS OF FEAR

(G. R. Beaman, Noroton, Conn., in *New England Jl. of Med.*, Dec. 14th)

Among general practitioners many "old-timers" have done magnificent work with their nervous patients.

Three hundred years ago the Puritans tried drowning out the devil by dunking the patient in a pond until air bubbles stopped. In these days no one longer speaks of casting out evil, but the patient is dunked in a bath of electroshock. It has limited beneficial effects, but the whole thing is still pretty mysterious.

Physicians have yet to gain sufficient mastery of psychiatry to feel any real confidence. They must admit to a sizable residuum of fear of mental illness.

Diagnosis of a nerve case is a puzzle; etiology, pathology and psychopathology are a mystery, and treatment is obscure. The doctor is in doubt; doubt arouses anxiety, and anxiety is fear.

So the doctor unskilled in psychiatric lore may be baffled with such cases. Even if diagnosis seems fairly obvious, management of the case finds him uncertain how to proceed, and uncertainty breeds fear.

REMOVING FOREIGN BODIES FROM THE NASAL CAVITY

WITHOUT INSTRUMENTS

(K. D. Bailey, M.D., Fairmont, in *W. Va. Med. Jl.*, Sept.)

The method which I have found successful, but which does not appear to be commonly used, is as follows:

Place the patient on his back.

Cover the patient's mouth with one layer of a clean white handkerchief.

Occlude the nasal orifice opposite the foreign body by pressure with your finger.

Place your mouth over the mouth of the child, the handkerchief being in between.

Next, gently blow or puff into the mouth of the child.

The foreign body will very dramatically shoot across the room.

This method is not only simple to perform but is non-traumatic to the nasal mucosa.

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The General-Adaptation-Syndrome and the Diseases of Adaptation*

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A. Brief Synopsis of the Stress Concept as it presents Itself in 1951

IN these Annual Reports on Stress I shall scrupulously avoid the duplication of material which has already been presented in my monograph *Stress*. I do wish to use this section, however, to incorporate the most important new facts into the general structure of the G-A-S mechanism, as it was described in *Stress* last year. At the same time, I hope that a synopsis of this type will act as a guide through the heavily documented pages which are to follow. To accomplish this, I shall have to recapitulate some of the earlier data, but I hope the reader will be compensated for these repetitions by the more harmonious outline of the presentation that can thus be achieved.

It will be noted that each section in this "Annual Report on Stress" is written as a complement to the corresponding section of *Stress*. The present passage is meant to be an appendix to the chapter

*This article contains the material presented by Dr. Hans Selye at the Fifth Annual Medical Symposium at Wrightsville Beach, N. C., on August 24th. The speaker used no manuscript but his address was based on the synopsis of the stress problem which will appear in his forthcoming book, "Annual Report on Stress—1951," and which we reproduce here prior to publication by permission of the publishers, Acta Inc., Montreal, Canada.

"History" (cf. *Stress*, pp. 2-4), in that it brings the historic development of this concept up to date by the addition of last year's data. In agreement with this plan, I shall describe—as far as possible—the principal facts, necessary for drawing the outlines of the stress problem, in the chronologic sequence in which they were actually discovered.

The concept of stress.—By a series of experiments on animals I could show, in 1936, that the organism responds in a stereotyped manner to a variety of widely different agents, such as: infections, intoxications, trauma, nervous strain, heat, cold, muscular fatigue or X-irradiation. The specific actions of all these agents are quite different. Their only common feature is that they place the body in a state of general (systemic) stress. Hence, we concluded that the stereotyped response—which is superimposed upon all specific effects—represents the somatic manifestations of non-specific stress itself.

But what is *non-specific stress*? The term had long been used in physics to denote the results of the interaction between a force and the resistance opposed to it. For instance, pressure and tension cause stress in inanimate matter. I thought that the above mentioned non-specific response represents the biologic equivalent of such physical stress. And the term has now been quite generally accepted in this sense not only in English, but—since attempts to translate stress led to much confusion—

also in most other languages.

The concept of the G-A-S.—The most outstanding manifestations of this stress-response were: *adreno-cortical enlargement* with histologic signs of hyperactivity, *thymico-lymphatic involution* with certain concomitant changes in the blood-count (eosinopenia, lymphopenia, polynucleosis) and *gastrointestinal ulcers*, often accompanied by other manifestations of *damage or shock*.

We were struck by the fact that, while during this reaction all the organs of the body show involutional or degenerative changes, the adrenal cortex actually seems to flourish on stress. We suspected this adrenal response to play a useful part in a non-specific adaptive reaction, which we visualized as a "call to arms" of the body's defense forces and named the "alarm-reaction."¹

Subsequent studies showed us that the alarm-reaction is but the first stage of a much more prolonged *General-Adaptation-Syndrome* (G-A-S). The latter comprises three distinct stages, namely:

(1) the *alarm-reaction* (A-R), in which adaptation has not yet been acquired.

(2) the *stage of resistance* (S-R), in which adaptation is optimal.

(3) the *stage of exhaustion* (S-E), in which the acquired adaptation is lost again.

The mechanism of the G-A-S.—In order to elucidate the kinetics of this syndrome we proceeded as follows:

Rats were *adrenalectomized* and then exposed to stressor agents. This showed us that in the absence of the adrenals stress can no longer cause thymico-lymphatic involution or characteristic blood-count changes.

When adrenalectomized rats were treated with the impure *cortical extracts* available at that time, it became evident that thymico-lymphatic involution and the typical blood-count changes could be produced by adrenal hormones even in the absence of the adrenals. The latter, therefore, were considered to be indirect results of stress mediated by corticoids.

Conversely, the gastrointestinal ulcers and other manifestations of pure damage were actually more severe in adrenalectomized than in intact animals and could be lessened by treatment with cortical extracts. It was concluded that these lesions are not mediated through the adrenal and are combatted by an adequate adreno-cortical response to stress.²

But what stimulates adreno-cortical function during stress? In 1937, we found that among many surgical interventions tried, only *hypophysectomy* prevents the adrenal response during the alarm-reaction. Hence, we concluded that stress stimulates the cortex through an adreno-corticotrophic hormone, now known as ACTH.³

Then pure cortical steroids became available, thanks to the classical investigation of Kendall and Reichstein. With these, we could show that administration of *mineralo-corticoids*, or M-Cs (such as desoxycorticosterone) produces experimental replicas of the so-called *hypertensive and rheumatic diseases*; notably, *nephrosclerosis*, *hypertension*, *vascular lesions* (especially periarteritis nodosa and hyaline necrosis of arterioles),⁴ as well as *arthritic* changes resembling, in acute experiments, those of *rheumatic fever* and after chronic treatment, those of *rheumatoid arthritis*.⁵ Yet, even very high doses of mineralo-corticoids did not induce any noteworthy thymico-lymphatic or blood-count changes.

Significantly, exposure of animals to non-specific stressor agents (e.g., cold) produced marked adreno-cortical enlargement and organ changes very similar to those elicited by the administration of mineralo-corticoids.⁶

Gluco-corticoids or G-Cs (such as cortisone) on the other hand, were highly potent in causing *thymico-lymphatic involution* and in eliciting the characteristic *blood-count changes* of the alarm-reaction. They also tended to inhibit the hypertensive and rheumatic changes which can be elicited in animals by mineralo-corticoids. Thus, in many respects, the two types of corticoid hormones antagonize each other.⁷

Inflammatory granulomas, especially those produced in the vicinity of joints by the local application of irritants (e.g., formalin, mustard powder), as well as certain allergic reactions, are likewise aggravated by mineralo- and prevented by gluco-corticoids. Apparently, the response of the adrenal cortex is most important not only in defense against systemic stress (affecting the whole organism), but also in the manifold topical defense reactions which occur upon exposure to *local stress* (e.g., bacterial or chemical irritants, responses of a "shock organ" to an allergen).⁸

Certain crude anterior-pituitary extracts,⁹ duplicate the above mentioned actions of M-Cs upon the cardiovascular system, the blood-pressure and the kidneys. The hypophyseal preparations which we used, were definitely corticotrophic, in that they enlarged the adrenal cortex, but they were particularly rich in the so-called "growth hormone" or *somatotrophic hormone (STH)*. As soon as we were able to obtain purified ACTH, it became evident that the above mentioned pathogenic actions of the crude anterior-pituitary preparations could not be due to their ACTH content, since even the highest tolerable doses of the latter hormone failed to duplicate their predominant M-C effects. On the other hand, overdosage with pure STH caused cardiovascular and renal lesions, identical with those previously observed in animals treated with M-Cs. It was concluded that the above mentioned actions of

our crude anterior-pituitary preparations were mainly due to their STH content. It remains to be seen to what extent STH acts indirectly by stimulating the M-Cs production of the adrenal cortex, or directly by sensitizing the peripheral tissues to M-Cs. Preliminary observations suggest that both these mechanisms may be implicated.¹⁹

From the internists' point of view perhaps the most interesting role of STH in the Adaptation Syndrome is that it can effectively combat catabolism and sensitivity of infections. Animals heavily overdosed with ACTH or G-Cs, tend to lose a great deal of weight. Eventually they die, almost always as a result of generalized septicemia, caused by normally saprophytic microorganisms. In rats the lung tissue appears to be singularly predisposed to such infections. Under these conditions, adequate doses of STH prevent the loss of body weight as well as the excessive microbial proliferation.¹¹ It remains to be seen to what extent these actions of STH will prove to be of value in the management of infections in man.

Conditioning of hormone actions.—As work along these lines progressed it became increasingly more obvious that the activity of the hormones produced during stress depends largely upon a variety of "conditioning factors". Both the production of the "stress hormones" and their effect upon individual target organs proved to be greatly influenced by heredity, previous exposure to stress, the diet, etc. Thus, for instance, the production of corticotrophic hormone by the pituitary is enhanced by a high-protein diet, while the action of M-Cs upon most target organs is augmented by excess sodium.

In the final analysis such factors could actually determine whether exposure to stress would be met by a physiologic G-A-S or cause Diseases of Adaptation; indeed, in the latter instance, they appear to be responsible for the selective break-down of one or the other organ. We felt that this might explain why the same kind of stress may cause diverse types of Diseases of Adaptation in different individuals.

The concept of the Diseases of Adaptation.—From our above mentioned experiments, we concluded that the pathogenicity of many systemic and local irritants depends largely upon the function of the hypophysis-adrenocortical system. The latter may either enhance or inhibit the body's defense reactions against stressor agents. We think that derailments of this adaptive mechanism are the principal factor in the production of certain maladies which we consider, therefore, to be essentially Diseases of Adaptation.

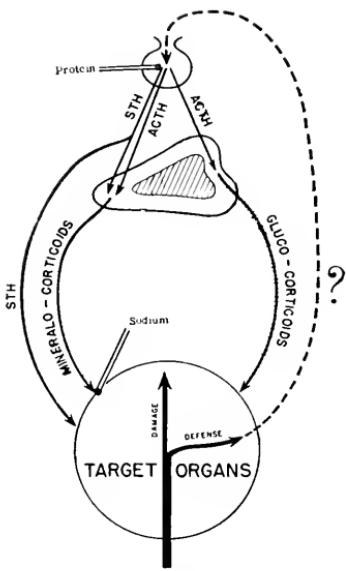


Figure 1

STRESSOR

Schematic Diagram Illustrating The Principal Interrelations Between The Hypophysis, The Adrenal Cortex and The Peripheral Target Organs During The General-Adaptation-Syndrome

The stressor (trauma, infection, burns, etc.) acting directly upon the cells produces damage. At the same time, it also mobilizes defense by evoking a stimulus, which induces the anterior pituitary to produce ACTH; under certain circumstances it may also cause a discharge of STH. The nature of this first mediator between the directly injured organ and the anterior pituitary is not yet known (humoral, nervous?). Hence, here it is indicated merely by an interrupted line, labelled with a question mark. ACTH induces the adrenal cortex to produce predominantly glucocorticoid compounds, whose effect upon the response of the various target organs is generally inhibitory (e. g., catabolism, diminution of granuloma formation and of allergic responses, diminished resistance to infection). Conversely, STH enhances a variety of defensive reactions in the target organs (e.g., anabolism, augmentation of granuloma formation and of allergic responses, increased resistance to infection), primarily by stimulating the connective tissue. Part of this action is undoubtedly not mediated through the adrenal cortex, but this direct effect sensitizes the connective tissue elements to the (essentially similar) actions of the mineralo-corticoids. It is probable that STH also acts by increasing the production of mineralo-corticoids. However, in itself, it cannot maintain the cortical cells in a responsive condition, hence its "corticotrophic" effect is dependent upon the simultaneous availability of ACTH. In the final analysis the physiologic and pathologic responses of the target organs to stressor agents largely depend upon the balance between the mineralo-corticoids and STH on the one hand, and ACTH and the gluco-corticoids on the other.

The production of corticotrophic hormone by the pituitary is enhanced by *high-protein* diets, while the actions of mineralo-corticoids upon most target organs is augmented by excess sodium. Thus dietary factors "condition" the response of the body to hormones produced during stress.

Among the *derailments of the G-A-S which may cause disease*, the following are particularly important:

(1) An *absolute excess* or deficiency in the amount of corticoids and STH produced during stress.

(2) A *disproportion* in the relative secretion, during stress, of ACTH and G-Cs on the one hand, and of STH and M-Cs on the other.

(3) Production by stress of metabolic derangements, which abnormally alter the *target organ's response to STH, ACTH or corticoids* (through the phenomenon of "conditioning").

(4) Finally, we must not forget that although the hypophysis-adrenal mechanism plays a prominent role in the G-A-S, *other organs* which participate in the latter (e.g., nervous system, liver, kidney) may also respond abnormally and become the cause of disease during adaptation to stress.

B. Principal Objections Against the Stress Concept

(1) *Desoxycorticosterone may not occur in the adrenals.*—The basic observations, concerning the Diseases of Adaptation, have been made in animals treated with excesses of DCA. It is this work which led to the concept that diseases could be due to an excessive M-C activity. Evidence now at hand is allegedly insufficient to prove with certainty that desoxycorticosterone is normally secreted into the blood by the adrenal cortex.¹² on the other hand, observations on perfused adrenals strongly suggest that, at least *in vitro*, desoxycorticosterone is discharged into the venous effluent.¹³

It will be recalled that STH preparations produce lesions similar to those of DCA-overdosage, but only in intact, not in adrenalectomized, animals.¹⁴ Even if desoxycorticosterone itself were not secreted by the suprarenal cortex, the above observations would still strongly suggest that some similarly acting principle is produced, or activated, as a result of hypophyseal stimulation. Furthermore, the "amorphous fraction" of Kendall, the "sodium factor" of Hartman and desoxycortisone (Reichstein's "Cpd. S") have also been shown to possess typical M-C actions. All these substances have been prepared from the adrenals, in good yields by several investigators, so that there can be no question about their being natural products of suprarenal activity.

As we have said elsewhere (cf. *Stress*) the renal damage produced by M-Cs is not prevented by simultaneous treatment with G-Cs. Hence, the slight nephrotoxic, M-C activity which contaminates all the predominantly G-C compounds so far

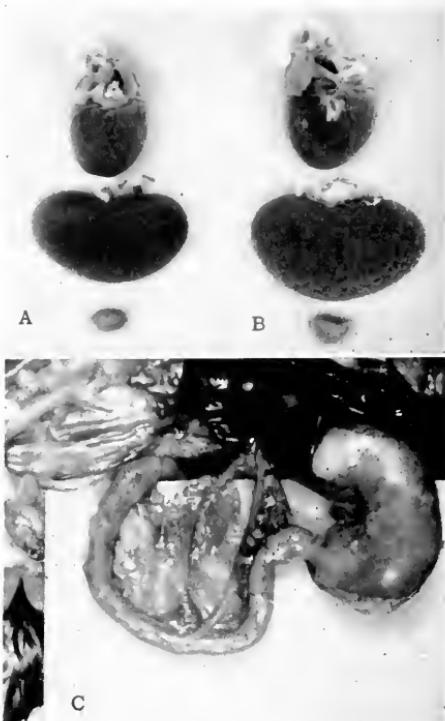


Figure 2

examined, can readily be detected. Recent observations (Horava and Selye, unpublished) on rats, sensitized to M-C activity, showed that heavy overdosage with Cpd. F also causes definite renal changes, accompanied by hypertension. There appears to be no doubt about the fact that cpd. F is normally secreted by the adrenal cortex. Hence, this observation in itself would suffice to prove that an excess of a naturally produced corticoid can cause disease in sensitive individuals, especially during the G-A-S when its elaboration is greatly augmented.

(2) *The doses of DCA used in the fundamental experiments on the "Diseases of Adaptation" may exceed the amounts that could ever be produced by the adrenals.*—This criticism has been voiced particularly with regard to the earliest experiments, in which DCA was given in the form of injections to non-sensitized animals. Subsequently, with the introduction of the pellet implantation technique (especially in animals sensitized by unilateral nephrectomy and/or high-sodium diets) much smaller amounts of the hormone proved to be disease-producing.

Recent experiments in which threshold doses of DCA and STH were given, either alone or in com-

bination, are particularly illuminating in this respect. They showed that even comparatively small doses of STH are most effective in sensitizing the rat to the cardiovascular and renal damage producing action of DCA.¹⁵ Since, on the other hand, these same actions of STH are completely inhibited by large doses of cortisone,¹⁶ it is obvious that the mutually antagonistic actions of G-Cs (such as cortisone) and M-Cs (such as DCA) are largely dependent upon the amount of STH in the circulation. It is quite conceivable, therefore, that in individuals specifically sensitized to the toxic actions of M-Cs, by one or more "conditioning factors" (G-Cs, Na, STH, etc.), the syndrome of DCA overdosage may appear without any appreciable increase in the total production or urinary elimination of corticoids.

This whole situation has its parallel in enzyme actions. In common parlance we often say that the content of the blood in a certain enzyme is increased or decreased, but the determinations upon which such statements are usually based, do not actually measure absolute concentrations of enzymes, but enzyme activity. The latter does not depend only upon absolute concentrations, but also upon "conditioning factors" such as pH, the presence of certain metals and so forth.

In endocrinology, when we observe specific changes that we can duplicate only by excess administration of a certain hormone, we are tempted to ascribe them to endogenous overproduction of this hormone. If we find that a patient spontaneously shows signs which simulate the changes caused by an excessive intake of thyroid hormone, we conclude that this patient probably produces too much thyroid hormone. Similarly I used the term "hypercorticoidism" too loosely in connection with my experiments on the pathogenesis of Diseases of Adaptation. The changes actually observed are only indicative of increased corticoid activity, not production. Special investigations are necessary in each case to determine whether a lesion of this type, when it occurs spontaneously in a patient, is actually due to increased production of corticoids, to changes in the internal milieu which sensitize the target organs to such corticoids, or to both of these factors.

It must be remembered, on the other hand, that there is no objective reason to consider the pathogenic amounts of M-Cs as being beyond the limits of what could be produced in the body during stress. The quantities excreted in the urine of men who had received DCA in doses conducive to hypertension, increased blood-volume, edema, and renal damage do not exceed those eliminated by patients after burns, traumatic injuries or acute infections. If we can judge by the amounts of G-Cs required to produce remissions in those spontaneous

diseases which have been simulated in the animal by DCA overdosage, then this criticism appears to be even more unjustified. About 10 mg. of DCA a day, given over a period of weeks, would certainly be pathogenic in man, while 80-100 mg. of cortisone is usually required to produce a pronounced remission, for instance, in rheumatoid arthritis or lupus erythematosus.

(3) *The urinary elimination of corticoids is not always demonstrably abnormal in the Diseases of Adaptation.*—This objection has already been partly answered in the preceding passages. As we saw, Diseases of Adaptation do not necessarily result from an absolute deficiency or excess of corticoids; they can also ensue as a consequence of unfavorable "conditioning" of their actions, e.g., by the diet or by an improper balance between antagonistic pairs of stress hormones (ACTH/STH, G-C/M-C, ACTH/M-C, etc.) Such a deranged hormone balance is in turn not necessarily due to abnormalities in the secretion of these substances by the hypophysis or adrenal. It may be caused by derangements in hormone metabolism (e.g., hepatic detoxification) or abnormal end-organ sensitivity (conditioning).

Diseases of Adaptation can also be caused by a state of "relative hypocorticoidism." Thus in our "topical irritation arthritis" the introduction of an irritant into the joint region produced a violent arthritis in normal animals, yet it failed to do so after pre-treatment with an excess of ACTH or cortisone. This clearly shows that the adequacy of corticoid secretion can be assessed only in proportion to the pathogen which creates a need for such hormones. It is highly probable that pathogenic factors, which cause disease in individuals whose corticoid production remains "normal," would fail to do so if the adrenals responded with an increase in hormone discharge, commensurate with the increased requirements occasioned by an abnormal situation. Indeed, it is quite possible that many individuals who carry the pathogens (whatever these may be) of rheumatoid arthritis, allergies, lupus erythematosus, and so forth, remain in perfect health throughout life because—by way of the G-A-S mechanism—they have rendered these *potential* pathogens quite innocuous. To use an analogy from an entirely different field, one might compare them with the typhoid or meningococcus carrier who lives in perfect harmony with the deadly germs present in his body.

Quite recently I observed (unpublished) that transitory overdosage with STH or LAP and DCA, during a period of two weeks, elicits a progressive and eventually fatal nephrosclerosis and hypertension in the rat. Many of the animals so treated appeared to be in excellent health, and continued to gain weight at a normal rate, after discontinua-

tion of the hormone administration; yet eventually they became ill and died with the typical lesions characteristic of our "Diseases of Adaptation." Such observations suggest that a transitory episode of excessive STH and/or M-C production may elicit disease manifestations at a time when the increase in the production (and hence excretion) of the causative hormones no longer exists. This finding is somewhat reminiscent of the well-known fact that partial constriction of one renal artery may cause a persistent hypertension, which progresses even after the clamped kidney is removed.

Permanent cardiovascular and renal lesions induced by temporary overdosage with "adaptive hormones."—A. Heart, kidney and left adrenal of a normal female control rat.—*B.* Corresponding organs of a rat of the same size and age as that illustrated in Fig. A. This animal received heavy doses of LAP (20 mg. twice daily) and of DCA (5 mg. daily) for a period of 12 days, seven months prior to autopsy. At that time both animals weighed 106 gm.; they were sensitized to M-C actions by unilateral nephrectomy and 1% NaCl as drinking fluid. 25 rats were subjected to such transient hormone overdosage. Upon cessation of hormone and NaCl administration they appeared to be in perfect health, yet all but this one died during the intervening seven months, with marked nephrosclerosis, hypertension, periarteritis nodosa and cardiac nodule formation. This last survivor also shows cardiac and aortal hypertrophy, fibrous nodules in the heart (white spots in center of ventricle) and a granular, nephrosclerotic kidney. The adrenals are not manifestly abnormal. Throughout the entire length of observation all these animals invariably developed acute exacerbations of their hypertension whenever they were placed on 1% NaCl for a few days. The experiment illustrates that a temporary excess of "adaptive hormones" can cause a progressive and eventually fatal disease although at the time of manifest illness there need no longer be any hypothalamic or corticoid hormone excess.—*C.* Stomach and duodenum of the rat shown in Fig. A. Round whitish nodules of organized periarteritis nodosa along the mesenteric vessels are indicated by arrows. (Selye, unpublished.)

It should be mentioned, furthermore, that some evidence of an anomaly in steroid metabolism has been noted in patients suffering from the rheumatic-allergic diseases (e.g., increased pregnanediol excretion after the administration of progesterone, anomalies in 17-KS elimination).¹⁷

Research along these lines has been handicapped, principally because of the difficulty of assaying blood or urine specifically for M-C activity. However, several recently published improvements in the relevant techniques (cf. "Chemistry and Pharmacology of the Stress Hormones", below) hold great promise as regards the elucidation of this important problem.

(4) *The distinction between M-C and G-C is fundamentally unsound.*—This objection¹⁸ is hardly justified. I believe to have been the first to point out that all known G-C's do possess some measure of M-C activity. Even such typical G-C's as cortisone or Kendall's Cpd. F can—under certain circumstances—cause sodium and water retention, hypokalemia, hyperkaluria, etc. Indeed it is be-

cause of this, that I refused to accept the M-C effects of ACTH as adequate proof that the latter hormone can stimulate the adrenal to produce M-Cs. Even if ACTH induced the adrenal to produce only Cpd. F and cortisone, its slight M-C potency could be fully explained (cf. *Stress*). Nevertheless, one recent investigator warns "that the term 'gluco-corticoid' may in itself represent an oversimplification. As used by Selye, the term carries the dangerous implication that a single effect upon one type of biochemical reaction only is involved in the manifestation of 'gluco-corticoid activity'".¹⁹

It will be recalled that I proposed the terms *gluco-corticoid* and *mineralo-corticoid* to denote pharmacologic properties not chemical compounds. No steroid known at present possesses G-C without M-C activity and although I believe that DCA exhibits only M-C activity (without any G-C property as generally defined) there are highly competent investigators who think that even DCA has a trace of G-C action. On the other hand, I doubt that anyone today would still deny that DCA and cortisone, two pure chemical compounds, exert qualitatively quite different pharmacologic effects. The former (like desoxocortisone, acetoxypregneno-*lone*, etc.) is representative of M-C activity, because its predominant effect is to retain NaCl and water, while promoting the excretion of potassium. It has little, if any, ability to raise liver glycogen, blood-sugar or gluconeogenesis. On the other hand, cortisone (like Kendall's Cpd. F, dehydrocorti-*costerone*, etc.) is a typical representative of the G-C group, because its predominant activity is upon liver glycogen, blood-sugar and gluconeogenesis. Corti-*costerone* takes an intermediate position in that it is less G-C and more M-C than cortisone. The fact that no compound exhibits G-C activity in its pure form, does not mean that the G-C actions do not represent a distinct pharmacologic property. On the contrary, without this, or some equivalent term (and concept) it would be impossible to distinguish between these two types of corticoids. All those who found time to consider this problem seriously arrived at the same conclusion, although they may have used different terms for G-C (cortisone-like, Cpd. F-like, S-hormone) and M-C (DCA-like, Na-hormone, Salt-and-water hormone) activity, respectively.

Let me add also that an overlap of pharmacologic activities in the same steroid is by no means without precedent. Testosterone is predominantly an "androgenic" or testoid compound, although it also possesses considerable "estrogenic" or folliculoid activity. Yet no one will doubt that it is pharmaco- logically indispensable to distinguish between androgens and estrogens although we do not know of any androgens completely devoid of estrogenic potency.

Most readers will probably feel that it is quite superfluous to insist so much upon the self-evident, but this point is still often misunderstood.

(5) *There is no adequate proof to support my hypothesis that the anti-rheumatic, anti-allergic, antiphlogistic, thymolytic, eosinopenic and infection facilitating effects of corticoids are all subordinate manifestations of the G-C activity.*—I agree with this objection. The hypothesis, according to which all these activities are largely interdependent, is based on a rather limited number of systematic studies.

On the other hand, it must be kept in mind that with regard to this problem we can assume only three possible attitudes: (1) We can consider these effects interdependent; (2) not interdependent; (3) we can remain undecided. To the best of my knowledge no steroid compound is known today which has been proven to be highly active in any one of these respects without exhibiting the other above mentioned effects as well. Hence, I think it is of heuristic value, as a basis for our thoughts and work, to assume, meanwhile, that these are subordinate manifestations of the G-C activity. If later actual observations should show exceptions to this interdependence then will be the time to abandon this view.

(6) *DCA does not aggravate rheumatoid arthritis.*—It has been claimed that hyper-mineralo-corticoidism could not be a factor in the pathogenesis of rheumatoid arthritis since treatment with DCA does not further aggravate the joint lesions in patients suffering from this disease.²⁰ This seems to be one of the most justified objections raised against the Adaptation Disease concept. It must be kept in mind, however, that in most cases patients with rheumatoid arthritis have been treated only with very small doses of DCA. In the few patients who received toxic amounts the availability of M-Cs may not have been the limiting factor. None of the latter cases has been reported in detail and hence it remains to be seen whether an aggravation could not occur under optimal circumstances of dosage, length of treatment, diet, etc. It is certainly well-established today that DCA treatment often produces joint pains in Addisonians and several instances of experimental arthritides have been described in DCA-overdosed men (cf. *Joint Diseases of Adaptation*, below).

(7) *Rheumatoid arthritis is not accompanied by any marked disturbances in Na and water metabolism.*—It has been said that "perhaps the strongest evidence against Selye's views is that the rheumatic diseases in man are not normally accompanied by any marked disturbances in electrolyte metabolism. If excessive 'mineralo-corticoid' secretion were an important etiological factor, one would expect sodium and chloride retention and raised

potassium excretion to be associated with these diseases".²¹ Similarly, it has been pointed out that ammonium chloride—which causes NaCl and water loss, and antagonizes many of the DCA overdosage effects in animals—fails to ameliorate the condition of patients with rheumatoid arthritis.²²

In this connection I should like to point out, however, that in well-controlled animal experiments even injected DCA itself was found to cause either a retention or a loss of NaCl and water, depending upon the state of tissue hydration and NaCl saturation (cf. *Stress*). Indeed, even on a constant salt and water intake, the same dose of DCA may at first induce retention and later a loss of NaCl and water. Hence, water and salt retention is not always an accurate measure of DCA overdosage. On the other hand, the rheumatoid granuloma itself is very rich in NaCl and water, hence, some retention of these components must necessarily exist, at least at the site of the lesions. Finally, some investigators did claim to have observed a definite salt and water retention in rheumatoid arthritis (cf. *Joint Diseases of Adaptation*), although this is inconstant and rarely pronounced.

I do not feel that these counterarguments invalidate the criticism under consideration, but more data are required to settle the point.

(8) *The therapeutic action of ACTH and cortisone may be purely "pharmacologic" and unrelated to the G-A-S mechanism.*—Immediately after it had been shown that ACTH and cortisone can cause remissions under those same clinical conditions which we had imitated by M-C overdosage in animals, a number of investigators expressed the view that there may be no relationship whatever between the clinical and the laboratory observations. It had been pointed out, for instance, that the therapeutic action of digitalis in heart disease does not imply that the latter is due to a digitalis deficiency.

Perusal of the publications listed in this volume shows, however, that during the last two years most specialists in this field began to postulate some relationship between the therapeutic efficacy of the stress hormones and the physiologic defense reactions as they occur in the G-A-S.

In this connection it is interesting to quote a few lines from a recent review, by a highly competent investigator of steroid metabolism: "*The administration of large amounts of steroids is not necessarily unphysiologic.* It has been shown that the increase in hormone production during pregnancy is at least 50 to 100 times that of the nongravid state. This large increase is necessary for a purely physiologic process and is achieved without difficulty and certainly without harm to the woman. In order to obtain pregnanalone excretion, comparable to that of pregnancy, by progesterone administration to a non-pregnant subject, it would be necessary to in-

ject more than 1 gm. per day. The same consideration applies to the excretion of estrogens, gonadotrophins, and glycogenic steroids.²²

One prominent student of this field, nevertheless, concluded an extensive review of the pertinent literature by saying: "It would appear that the therapeutic action of ACTH and cortisone in the collagen diseases is pharmacological rather than physiological in nature. If the effect were physiological then the hormones would be expected to replace a deficiency. However, patients with collagen diseases do not have a metabolic derangement characteristic of adreno-cortical insufficiency. Furthermore, the ACTH-eosinophil test indicates that the available reserve of adreno-cortical secretory activity is not noticeably impaired in the rheumatic state. Additional evidence in support of a pharmacological action is the fact that therapeutic doses of ACTH and cortisone usually produce some degree of hypertension."²³

In reply to this it may be said that it was precisely the fact that *stressors (pregnancy, jaundice, surgical trauma, malnutrition) cause remissions in rheumatoid arthritis*, which led the workers of the Mayo Clinic to use ACTH and cortisone. Thus, they attempted to imitate a physiologic defense mechanism of the body. Few investigators will assume today that all the above mentioned stressors act upon rheumatoid arthritis through mechanisms other than the ACTH—G-C discharge of the A-R. That the pituitary of the patient with collagen disease is responsive to stress (e.g., as shown by the eosinophil test or steroid excretion studies)²⁴ is a necessary prerequisite for non-specific therapeutic measures and for the "spontaneous remissions" induced by the above mentioned stressors.

Finally, as we learn more about conditioning factors, it becomes increasingly more feasible to administer therapeutically effective doses of these hormones with little if any *undesirable side effects*. By reducing the NaCl intake, the excessive water retention and its undesirable consequences can be greatly diminished, or even abolished; by administering excess potassium the hypokalemic syndrome can be avoided, and so forth. It remains for further investigation to establish whether all the unpleasant side effects of this therapy can be circumvented if the hormones are administered under optimal circumstances of dosage and "conditioning," but this is certainly a real possibility.

(9) *Why are the "Diseases of Adaptation" so polymorphic in their manifestations if they are all due to stress?*—We believe that the principal reasons for this polymorphism are the so-called "conditioning factors": namely, the specific effects of the evocative stressors and other exogenous or endogenous factors (heredity, pre-existent disease of certain organs, diet, previous exposure to stress,

etc.) which can affect, selectively, certain pathways or target organs of the G-A-S response.

(10) *Why does exposure to the same stressor produce disease only in certain individuals?*—It is undoubtedly true that the same drug, microbe, emotional irritant, or physical injury may produce a disease of adaptation in one person and be tolerated with impunity by another. It should be recalled, however, that the G-A-S is a useful, normal physiologic reaction to stress; only its derailments have been interpreted as Diseases of Adaptation. Hence, exposure to a stressor can be expected to produce such diseases only if the defense reaction is inadequate. Thus, for instance, in our experimental efforts to produce the hyalinosis-hypertension syndrome in rats by exposure to cold, we found it necessary to perform unilateral nephrectomies and to keep the animals on high-sodium, high-protein diets. All these conditioning circumstances failed to produce disease in the absence of stress, but upon exposure to cold they caused a derailment of the G-A-S, with consequent cardiovascular lesions, nephrosclerosis, and a rise in blood-pressure.

It is very probable that in man also, under the influence of stress, similar diseases would develop only when the G-A-S is prevented from evolving in a normal manner, as a result of adverse conditioning factors.

(11) *The problem of the "First Mediator."*—There is a striking paucity of information concerning stimuli which, during stress, induce the pituitary to discharge ACTH. Transection of the stalk (with all its nervous and blood-vessel connections between hypophysis and hypothalamus) does not necessarily impede this response. The pathways between the hypothalamus and the pituitary may be of importance in the event of exposure to purely neurogenic stressors; it remains to be seen, however, what carries the "stress message" to the anterior lobe from a burned skin, a traumatized limb, or tissues damaged by infections and intoxications. We expressed the opinion that perhaps an ACTH discharge could be caused by any derangement in the chemical or physical characteristics of the blood, but this is merely a hypothesis.²⁵ Further work along this line is badly needed.

(12) *There is no objective evidence of an STH discharge during stress.*—This objection has not yet been raised because our work on STH has only recently been published. Nevertheless, we felt that the problem should be clearly formulated. Up to now, there was, of course, no inducement to attempt the demonstration of STH in the blood of patients suffering from what we call the Diseases of Adaptation; hence, the lack of pertinent data is not surprising. It may take some time before we will have relevant data because the bioassay methods for STH in biologic fluids are cumbersome and

inaccurate. It is definitely known, however, that the pituitaries of animals and man contain large amounts of STH, far beyond the period of growth, throughout adult life. It is tempting to assume that the elaboration of STH is useful not only for the promotion of somatic growth, but also for the stimulation of the connective tissues in a sense directly opposite to the inhibitory effect of ACTH and G-Cs. STH might be especially useful in various types of infections in which defensive encapsulation and granuloma formation around the foci of pathogenic organisms can be of help. Significantly, in animals, acute intoxication with the large doses of STH reproduces a syndrome of splenic, hepatic and renal enlargement with proteinuria, rather reminiscent of that seen in many systemic infections of man.²⁶ Yet it must be admitted that, at present, there is no objective proof of an increase in STH production during any kind of systemic stress.

(13) *Other minor objections.*—Some additional objections are hardly worthy of an extensive analysis. I mention them here only in order to make this list as complete as possible.

One investigator reviewed the publications of all those who could not produce nephrosclerosis, periarteritis nodosa and/or hypertension with DCA in the rat, suggesting that there is still considerable disagreement even on this fundamental point. However, he then proceeds to enumerate his extensive—and most valuable—personal contributions to the mechanism of this reaction in which the production of these lesions by DCA was invariably his basic experiment. I think we must admit that those who, unlike himself, could not confirm my work must have used faulty experimental techniques.²⁷

The same investigator mentions that “rats with pneumonia and exposed to cold develop cardiac lesions and nephrosclerosis, whether treated with DCA or not,” to show that (even if they are obtainable) the production of such changes by DCA is not specific of this hormone. Yet, two pages later in his review, he states “Selye has not presented convincing evidence that chronic exposure of animals to stress (uncomplicated by DCA administration) induces pathological changes characteristic of the collagen diseases of man (periarteritis nodosa, interstitial myocarditis and arthritis).”²⁸

Another reviewer believes that “somatotrophic hormone may be a non-specific irritant or antigen to the tissues” and produce the hyalinosis syndrome merely as a result of this.²⁹

In one recent article it is claimed that “one should not assume that Selye’s animal experiments can be transferred to man, since up to now rheumatic manifestations have never occurred under DCA therapy, e.g., in Addison’s disease. Here one should expect them theoretically since in Addison’s disease there is insufficiency of the entire adrenal

cortex.”³⁰ This statement merely reveals a lack of familiarity with the literature, since rheumatic-like joint lesions have frequently been observed in DCA treated Addisonians (cf. “Joints,” below); indeed, by coincidence, one additional case has been reported in the same Journal a few months later.³¹

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DEPARTMENTS

HUMAN BEHAVIOUR

REX BLANKINSHIP, M.D., *Editor*, Richmond, Va.

THE PROBLEM OF THE SEX OFFENDER

WIDESPREAD PUBLICITY is usually given to major sex crimes and public indignation is aroused to a high pitch when such crimes occur. In recent years a number of atrocious sex crimes have aroused certain groups of citizens in Virginia, as well as other states throughout the country, to demand that "something be done" to detect and control sex offenders. In the past, many states have hastily enacted legislation in this field which has proven beneficial to a degree; however, some was impractical, and a great deal of such legislation has remained on the statute books unenforceable and ignored. More recently, a sensible and logical attitude has developed toward the sex-crime problem. To this point, at the last meeting of the Virginia General Assembly, joint Senate resolution Number Six was passed, creating a Commission to study and make recommendations as to better legislation, care and treatment of the sex offender.

It is recognized that a great part of the population at some time in their lives engage in sexual acts which are prohibited both by society and the law—yet it is believed that only a few of the sexual offenses constitute a danger to society, and it is to this group particularly that we direct our attention. Three major elements frequently characterize the dangerous sex offender: First, the use of force in the performance of any sexual act against the will of one of the participants. Second, a prohibited sexual act where there is a great disparity in age between the participants, whether or not the element of force enters. Third, the repetitive compulsive nature of the act carried out with heedless disregard of the consequences to the offender.

Of major concern to society are the early detection, diagnosis, and treatment of the potentially dangerous offender in order to prevent and reduce the incident of sex crimes; and the provision of adequate treatment facilities in mental or penal institutions for the offender who has committed, or been convicted of, a sex crime.

In regard to the early recognition or prevention, it must be concluded that sexual psychopathy appears not to be a precisely defined syndrome of pathology such as to permit clear and accurate distinction from the normal personality. In an age that tolerates elastic standards of sexual behavior, it is almost impossible to detect the potentially dangerous sex offender in need of treatment, except

on the commission of a specific criminal act. In general, preventive measures, for the present at least, will have to be consigned to an accelerated mental hygiene program.

The question of legislation and treatment facilities designed for the sex offender specifically brings up many difficult problems. It is recognized that many crimes, apparently unrelated to sex, have a definite sexual component. Every criminal, sexual or otherwise, has recourse to due process of law. Should the sex offender be convicted and sentenced and serve time in a penal institution, and upon completion of his sentence be turned back on society without any type of treatment? Should there be an indeterminate sentence to a mental institution where at present only meager treatment facilities are available? How successful is any type of treatment?

Society in general, and particularly the community and family wherein a sexual crime has been committed, usually insist upon punishment for the offender. They suspect a treatment program in a mental institution is only a means of evading punishment. It is sad to relate but if all facts regarding the penal and mental institutions in the State were available to the criminal, and he could exercise a choice, he would no doubt elect to go to a penal institution. This emphasizes that a good deal of legislation is ineffective because it does not provide adequate facilities in the hospital to which the criminal is committed. Thus far, our correctional facilities afford little more than custodial care.

There is, as has already been mentioned, a divergence of opinion as to the curability of the sexual psychopath. Some hold the view that the psychopath (sexual or otherwise criminal) arises out of constitutional factors that are irremediable, at least by any known method of treatment. Those of this opinion would, in effect, allow the criminal psychopath to rot in custodial care. Others believe to the contrary that some, perhaps a large majority of, sexual deviants can at least be released in the community under parole or probation. It is agreed to by many that the psychopath can be treated successfully under a prolonged restraining program. It is perhaps true that many psychopaths, after prolonged disciplinary control in correctional environment "grow out of" their aggressive tendencies. Another pertinent and debatable question is the policy of establishing treatment facilities for the sexual psychopath, and more or less ignoring facilities for other types of psychopathic criminals. It is true we have institutions for the criminal insane, but the psychopath under the present system cannot be declared insane.

A report on the "Psychiatrically Deviated Sex Offender," released by the Group for the Advancement of Psychiatry, states in part: "It is clear that

in the legal process we should go beyond the symptomatic illegal act itself and assess the total personality to enable the courts to better achieve the aim of both community protection and individual treatment. Thus it would appear that the psychiatrically deviated sex offender should be regarded as suffering with a mental disorder and that the procedure of disposition be by indeterminate commitment as provided by law for persons with mental illness." The opponents of such a plan, if carried to the ultimate, consider the possibility that all criminal behavior is a psychiatric responsibility.

The general trend in Virginia, as well as other states, is to consider the sexual criminal as mentally ill and to provide special treatment facilities for such offenders. Already legislation provides for a pre-trial examination of any person charged with a crime who is believed to be sexually perverted, and a psychiatric examination after conviction, but before sentence. Such persons, under certain conditions, are committed to institutions under the Department of Mental Hygiene and Hospitals.

It is likely that increased use of psychiatric clinics in relation to the juvenile courts will afford a means of early detection and treatment of actual and potential sex offenders. It can be recommended too that all courts having criminal jurisdiction be permitted to designate as agents of the court such public or private mental clinics, hospitals or psychiatrists, as may be approved to receive for observation and diagnosis persons charged with crime and suspected of sexual deviation.

Statistics do not bear out the belief of many that sex crimes are on the increase. From studies that have been made and from ones now under way, it seems likely that some rational plan of prevention and treatment for the sex offender will evolve.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

BURNS: HOW TO TREAT THEM

EVERY doctor is called on to treat burns. There are few conditions that have been treated in more ways in the past 20 years. Read what Knoll¹ has to say, and treat 90% of your patients' burns in your own office and in their own beds.

Everyone in the presence of a burn case should be masked because burned tissue is an ideal culture medium. The burned surfaces should be covered with a sterile cloth; an unsterile, clean cloth is better than contaminated air. Then, in case the burn be grave, transportation to a hospital is imperative.

When burn is more than 40% of the total skin
1. W. V. Knoll, M.D., Duluth, in *Mississippi Valley Med. Jl.*, Jan.

area, recovery is unlikely. The depth of a burn is no less important than the area involved. The color of cutaneous burns is not a criterion as to the depth.

When burns involve the face and neck, shock is great and there is further hazard of respiratory burns with laryngeal edema or tracheal compression from subcutaneous edema.

Pain enhances shock and must be controlled. Demerol, because of its atropine-like action, may be superior to morphine. O is indicated if the respiratory tract is involved; vitamins, especially the B complex group, should be given with the plasma solution. Adrenal cortical and posterior pituitary extracts are not efficacious.

Shock should be prevented by replenishing the reduced blood volume. Restlessness indicates insufficient blood for proper function. Never use restraints for the restlessness of shock.

As much as 30% of plasma volume may be lost without clinical manifestations.

Many advocate plasma during the first twenty-four hours, others whole blood. In severe burns, 1000 c.c. of plasma should be given immediately. Another rule is 100 c.c. for each 1% of body surface severely burned. Whether plasma or whole blood is used, there must be adequate replacement of circulating fluid, given slowly and continuously. Untoward effects of over-dosage of plasma or blood are rare in burns other than pulmonary; too little plasma accounts for many fatalities. Observe the superficial veins of an unburned area, such as the dorsum of the hand; if the blood volume is normal, the veins are filled with blood, when they are below the level of the heart.

In order to prevent pulmonary edema, salt must be given by mouth, by proctoclysis or subcutaneously. Orally it is palatable in the form of salted barley water or salted rice water.

If debridement or cleansing is necessary, it should be done quickly and gently, blisters opened aseptically, cleansed with soap and water, rinsed with saline and dried. Over fine-mesh sterile gauze, 3x8 in. water-soluble ointment, such as furacin or sterile vaseline cod-liver oil ointment, is spread with a tongue blade. The grease bandages are covered with fluffed gauze and a heavy roller bandage snugly applied to exclude air and exert uniform pressure. *Anesthesia should be employed while dressing the burns of children.*

Because of the danger of infection from burns, dressings are left undisturbed as long as possible, often one to three weeks, unless signs of infection supervene.

In shock, cardiac output is reduced to 1/2 or 3/5 of normal. The renal circulation to 1/20 of normal. The degree of the anuria is usually corre-

luted with the degree of hemoglobinemia.

With toxemia temp. rapidly goes to 103-105 with only slight fluctuation and a slow return to normal. Transfusions of whole blood are used as a preventive. *Hemoglobinuria* following hemoglobinemia does not necessarily mean kidney pathology. The epithelial cells of the tubules re-absorb the hemoglobin up to a certain level. The non-protein N in such cases is usually 80 mg. %

Plasma transfusions encourage diuresis if plasma hgbn. is only moderately elevated. There is evidence that the only preparation capable of causing diuresis after severe burns is sodium sulfate 2½%, which has been known to reduce non-protein N 60 mg. % in one day and change the patient's status from anuria to one of elimination of 1650 c.c. in 24 h.

One recovering from severe burn requires two to three times his normal caloric quota—600 Gm. of c.h. daily to prevent the using up of body protein.

Whenever one-tenth of the body surface is burned, a negative N balance will probably ensue. The sources of N are food, plasma and whole blood, the losses mainly as exudate and via the urine. The greater part of the N intake will probably be from milk and eggs.

Whole blood transfusions spare the bone marrow and all measures which expedite healing will decrease erythrocyte loss.

All burns are potentially infected. Penicillin, streptomycin, bacitracin, and sulfadiazine should be used freely, the latter especially if pneumonia is likely. Some prescribe a 10-day course of penicillin on admissions, as well as after each skin graft.

Liberation of a histamine-like substance from damaged cells may cause hyperemia and later ulceration of the gastro-intestinal tissues.

SURGERY OF THE COLON AND RECTUM

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DIVERTICULOSIS

DIVERTICULOSIS of the colon is becoming of increasing importance because of the larger number of older people in the general population, and because of the fact that the increase in the pace of living has resulted in more patients with spastic colons. There are two types of diverticulosis, the congenital and the acquired, and, while both types may occur in any portion of the digestive tract, the vast majority will be found in the large bowel. Congenital diverticulosis may or may not cause symptoms; if symptoms be distressing, the diverticula should be removed surgically. The diagnosis of congenital diverticulum is verified microscopically when all three layers of the intestine will be

found on section. The acquired type, however, has only the mucosal and serosal layers, proving this type to be a true hernia of the mucosa through the muscularis, resulting in a mucosal herniation covered with serosa.

Diverticulosis itself is essentially symptomless, but as the condition progresses, the diverticula become larger and the opening into the bowel becomes smaller fecal material becomes inspissated in the diverticulum, and in many cases an inflammatory reaction is set up. This results in spasticity of the bowel with gas pains and increasing constipation. Quite often the patient's original complaint is of discomfort in the right upper quadrant and the diagnosis is very easily confused with cholecystitis. As the disease process advances the patient becomes distended and the pain usually localizes in the left lower quadrant. During this time the patient is in no particular danger except from the discomfort, quite often does not even consult a doctor, and as long as the inflammatory changes remain within the diverticula the disease is not at all serious. Therefore, the treatment of acquired diverticulosis, with or without mild diverticulitis, is quite simple, once the other conditions which may give the same symptoms are ruled out and the diagnosis is confirmed by x-ray examination. Most of these patients do exceptionally well on a low-residue diet, with an increase in vitamin B and a bulk-producing laxative, fortified with small doses of oily laxative.

(To Be Continued)

ORTHOPEDIC SURGERY

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PROGRESS IN ORTHOPEDIC SURGERY—METAL JOINTS

THE great Roman emperor-philosopher, Marcus Aurelius (A. D. 121-180), stated, "there is nothing so constant as change." Changing conditions are recognized as the basis of progress. Since the turn of the century there have been changes in the practice of orthopedic surgery too numerous to mention. The progress it has made in many instances is nothing short of phenomenal.

Only 25 to 30 years ago, open surgery of the bone was considered to be extremely dangerous and it was avoided whenever possible. Bone grafting had been described but it was not yet in popular usage. Preoperative preparation of patients was not understood as it is today. The adequate replacement of blood and other body fluids was little practiced and the danger of postoperative shock and sepsis was great. The use of antibiotics had not been heard of.

We were taught never to do an elective operation on the knee joint for infection in this, the largest joint in the body, might be fatal. In ampu-

tations. We were taught to be sure to wash away all of the sawdust, as this dead bone could lead to infection and delay healing. Now frequently sawdust is purposely collected to be used in bone grafting! Knee joints are unhesitatingly entered when proper indications are present.

At that time infection was almost the rule following compound fractures and amputations were frequent. Gas gangrene was not infrequent and at times cases terminated fatally. Fracture of the femoral neck was "the unsolved fracture" and many patients died from prolonged recumbency.

It has not been so many years since the orthopedist was considered a "strap-and-buckle" or "harness-maker" doctor. He first advanced his specialty to become a subdivision of general surgery. Now it is recognized as a distinct section and the field is so great that it has its own subdivisions: traumatic surgery, industrial surgery, compensation surgery, rehabilitation surgery, physical therapy, plastic surgery, neurosurgery, reconstruction surgery, special surgery of the hand and foot and cerebral palsy surgery.

One of the chief advances that has been made is the use of metal for internal fixation and replacement of bone. Following the report of Lane in 1912 on the use of bone plates, there were many unfortunate results due to the corrosive, irritative or electrolytic action of the metal that was used. A great deal of research and experimentation has been done so that now the use of metals is pretty well standardized. Vitallium has been proved to be inert in the body and, theoretically, it should last indefinitely without causing irritation.

It was the writer's privilege in 1940 to use the first Vitallium replacement of the upper end of the femur and recently he has designed a prosthesis of Vitallium to replace the femoral head. This has been used in ten cases and the results so far are most encouraging.

While in New York City developing this work at the Austenal Laboratories, it was amazing to be shown models of various Vitallium prostheses that have been made. There are the cups that are made for arthroplasties of various joints, hip cups, capitellum cups and cups for the temporo-mandibular joint. There are Vitallium replacements for the upper end of the humerus, the lower end of the humerus, parts of the pelvis, the patella, the knee joint and the ankle joint. There are hollow spheres to replace the carpal scaphoid bones; in fact, some one, at some time, has attempted to replace almost every joint with Vitallium. The Vitallium replacements used in general surgery are well known: skull plates, orbits, gallbladder ducts, heart valves and so on.

Some of these appliances have been successful. Some have been failures and were promptly dis-

continued, illustrating the constancy of change and contribution to progress in the art and science of surgery. With the passage of time when it is demonstrated that these prostheses and metal joints can be more and more successfully used, a real contribution will have been made.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

WHO ARE OUR PSYCHONEUROTICS?

A PSYCHONEUROTIC is, in the words of the Cleveland psychoneurologist, Dr. J. L. Fetterman, "one whose failure to adjust to life takes the form of physical illness, severe discomfort or character deviation." The three contributing factors to this mental disorder are (1) a predisposition to, or inherited endowment of, tendencies to react to nervousness, (2) inability to satisfy one's inner drives for love, security and achievement of ambitions, and (3) situations, stresses or life experiences to which the individual cannot react successfully. It follows that, if one has not been properly reared and at adolescence has feelings of insecurity, hostility, resentment, rebellion, negativism, improper information regarding sex, many and varied will be the repressed instincts and emotions stored within his *unconscious*. Fear, disappointment and frustration face him. He realizes the impracticability of literal escape and finds, in *organic illness*, an acceptable mode of getting away from his troubles.

Franz Alexander says that the central pathogenic factors in all neuroses are "abnormal repressions derived from drastic parents' prohibitions" during the childhood of the patient." The patient often develops an illness arising from the unconscious in which repressed factors are in conflict and out of which unexpected thoughts arise to intrude. Though the patient realizes he is ill, he does not understand why.

Psychoneuroses usually fall into four categories, the *anxiety neuroses*, the *compulsion neuroses*, *conversion hysteria* and *neurasthenia*. Some psychoneuroses result from more than one cause. The various symptoms include anxiety as the core of the neurosis, also weakness, motor disturbance, obsessions, dizziness, fear of catastrophe, death or impending doom, sexual frigidity or impotence, psychosomatic complaints referable to the heart, skin, liver, intestines, or any other organ of the body, phobias, such as fear of riding on elevators or trains, fear of dirt or of crossing the street, headache, nausea, diarrhea, sensitivity to light and noise, paralyses and many other organic and psychological disturbances.

Except for the mixed psychoneuroses each of the types has its own specific symptomatology: e.g., in *hypochondriasis* too ready fatigue, and preoccupation with the visceral in particular, obsession with his state of health.

Nervousness is characterized by irritability, physical and mental tire.

In the Armed Forces the term *hysteria* was little used; the anxiety type was called *anxiety reactions* or *phobic reactions*.

Reactive depression is characterized by a depressed mood tending toward dejection. *Psychasthenias* are a mixture of two types, the *compulsions* and the *obsessions*. Psychasthenics are generally those who were rigid, meticulous, of high intelligence, dependable, conscientious and religious. They feel compelled to perform acts which they know to be absurd: stepping on every crack in the sidewalk, touching every post, washing one's hands three times before eating and so on. Ideas continuing to recur to the patient's mind furnish obsessions from which he is unable to extricate himself. He may develop a serious illness because he is unable to do his daily job. Out of the unconscious levels of his mind rise senseless fears. Fears such as of narrow places, high places, bacteria, dirt, small rooms, certain animals, diseases, death, and snakes are characteristics of this illness.

The *anxiety neurosis* is common during peace and war. During W. W. 2 it was the most common, *conversion hysteria* standing second. Swank holds that "the emotional strain resulting from intense, unremitting alertness to unknown and unpredictable danger is psychologically a more potent cause of neurosis than the fear of mutilation or death." A predisposition to worry over trivial things and an unstable constitution produce the anxiety neurosis. The patient craves company, experiences palpitations, tight sensations in his throat, pressure in his head, possibly diarrhea. With any threat to his security or to his pride, he develops a neurosis, an inability to do creditable work.

In *conversion hysteria*, known in the Armed Forces as *conversion reaction*, *somatization reaction* and *dissociative reaction*, the patient gets relief from distressing emotions by converting them into symptoms, both physiological and psychological: paralyzed limbs, blindness, mutism, loss of memory and so on. Hysteria results from a desire to solve some acute problem or some unfulfilled desire, gratification of which might appear shameful. People of intelligence, of dramatic ability, and people who are self-centered and vain, often develop this malady. Sometimes they fall in paroxysms resembling epileptic fits; or lie in trances to be appearing insensible to stimuli ordinarily painful; sometimes they lose their voice; or become badly crippled; or lose their memories, and wander to distant cities.

A person suffering from this *amnesia hysteria* is said to be in a *juguc* state. When hysteria expresses itself in an altered or *converted* form as, for example in the crippled limb, paralysis, gastrointestinal or circulatory disturbances, blindness, mutism and so on, it is known as *conversion hysteria*.

DENTISTRY

J. H. GIBSON, D.D.S., *Editor*, Charlotte, N. C.

ARE FALSE TEETH NECESSARY?

WHAT doctor does not know many well-nourished healthy persons with no functioning teeth, home-grown or store-bought? And others who take out their dentures just before going to table?

No one will deny that false teeth supplied as replacements serve to improve the appearance of their wearers. A British doctor¹ raises the question whether or not they are ever necessary for promotion of health, appropriately considers whether dentures are ever necessary. In the early part of the century it was the custom for dentists to allow a considerable time to elapse between the extraction of septic teeth and the provision of dentures. In my own experience the patient almost invariably put on weight and recovered from his digestive trouble before the provision of dentures. A young fellow coming to me in 1914 had been rejected for the Army because he had no teeth. This was before the Army supplied dentures. He had had his teeth removed some two years before. He told me his jaws had got so hard he could eat the toughest meat. A raw apple bothered himself because it slipped.

I come across many edentulous working men who have discarded their dentures as they find no assistance from them in digesting their food. Improvement in health is often illogically ascribed to dentures, when it is really due to the removal of septic teeth.

1. P. K. Muspratt, M.D., in *British Med. Jl.*, July 14th.

BIRTHMARKS AND MOLES

(D. N. Matthews, in *Proc. Royal Society of Med.* (London), July)

The taking on of growth demands immediate action as soon as seen. This applies particularly to young babies; even a short delay may be sufficient to allow the tumour to infiltrate very widely.

Disfigurement is the commonest indication in adults.

The diathermy is to be preferred to the cautery. Introduce the needle before turning on the current so that uniform heat is delivered to the full depth of the lesion; a spider naevus is best dealt with in this way. The whole of the vasoformative core is first sclerosed through a single puncture and then the skin is lightly touched with the needle point over the radiating venules without penetrating it. The single central puncture does not leave a visible scar.

The application of a beta radiation plaque is the best way to treat a flat, salmon-patch capillary lesion, except

when this is so large that treatment would be very protracted. Carefully used, the plaque leaves no mark at all.

Moles require excision. They do not disappear spontaneously. The principal indication for their removal in children is cosmetic, although fear of malignancy when the child is grown prompt some parents to seek treatment.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

ANESTHESIA IN GENERAL PRACTICE

WE DO NOT pay enough attention to the prevention of the infliction of pain on our patients. From an authoritative source¹ we may learn much of value on how to improve our practice in this regard.

There is little that cannot be done under a local anesthetic—0.5% sol. procaine hydrochloride or metycaine—by infiltration.

Deep infiltration by itself will not permit painless incision. An intradermal injection must always be made if the skin is to be incised. A simple block of real use in obstetrics is that of the pudendal nerve carried out by depositing 10 c.c. of 1% sol. procaine hydrochloride with a dilute sol. of epinephrine, medial to the tuberosity of the ischium. This injection produces a maximum of benefit and it can be repeated.

An intradermal and subcutaneous ring-shaped block at the base of the penis permits not only circumcision, but any surgical procedure except amputation. For operations on the hand or the digits, block may be induced at almost any point proximal to the area of operation by injecting the anesthetic solution intradermally and down to the bone. At the wrist and in the hand, one must pass the needle from the posterior aspect toward the palmar aspect of the hand, but one should not force the needle through the palmar aspect. In the digits, one may use a ring-shaped block proximal to the site of the operation, going from skin to bone.

A brachial plexus block usually is not difficult if one locates the subclavian artery by pressure above the clavicle.

For operations on the lower extremity, one may either infiltrate around all the area, or a small amount of spinal anesthetic may be employed. A subarachnoid injection at either the second or third lumbar interspace, using procaine hydrochloride in a 5% concentration as it leaves the syringe, and in doses of not more than 100 to 150 mg., will produce excellent anesthesia from the umbilicus down for 30 to 40 minutes. It is well to administer 25 or 50 mg. of ephedrine IM at the time the local anesthetic is deposited into the spinal fluid, in order to keep the b. p. from falling to a point where the patient cannot respond to questions. It is always easier to per-

form lumbar puncture when a patient is sitting up than when he is lying on his side.

Ether by the drop method is so familiar that it will not be dealt with here. The use of the gas machine becomes involved and almost always requires a skilled anesthetist.

RHINO-OTO-LARYNGOLOGY

CLAY EVATT, M.D., *Editor*, Charleston, S. C.

MANAGEMENT OF DEAFNESS

EVERY practitioner needs to be qualified to rid the ears of his patients of insects and excess wax, and to advise properly as to ear conditions less amenable to treatment. Nodine¹ posts to date as to deafness.

About one in a hundred persons has some hearing disorder. A good many hard-of-hearing children are dismissed as unattentive or stupid until it is too late to help them. A child should be given specially devised hearing tests. If it is ascertained that the subject is deaf, every attempt should be made immediately to remedy every defect having a bearing upon it, and to start lip training in case the deafness progresses. A deaf child should never be left in a completely dark room, since this shuts him out of contact with his environment.

Repeated attacks of otitis media are apt to cause 8th-nerve destruction. Appropriate care includes tonsillectomy, local treatments and hearing tests.

During adolescence, if still deaf, the eustachian tubes, even after adenoidectomy, are frequently found obstructed by lymphoid tissue. This can be best remedied by radium applications after the manner of Crowe. Intensive vitamin therapy is advocated by some at this point, if there is not too much nerve destruction. Later the differential diagnosis must be made—whether it is an obstructive, perceptive or otosclerotic deafness. Most help can be looked for in the otosclerotics through the fenestration operation. Cases of destructive mastoiditis are few. Since use of the antibiotics, it is rare now to see a case of acute mastoiditis.

The biochemicals have had no favorable effect on the chronic suppurative type of ear.

In the young, serous or secretory otitis has not received sufficient attention. This condition may lead to attic perforations and cholesteomata, severely hampering hearing. Otitis media with effusion is quite common in children and often overlooked due to lack of symptoms. Hence it is left to result in deafness in later years. These cases usually have an allergic basis and can be managed by attention to this factor. The child's eustachian tube is horizontal and fluids taken in the recumbent position enter the upper pharynx, then the middle ear.

1. E. R. Nodine, M.D., Montgomery, in *Jl. Med. Assn. Ala.*, July.

1. J. S. Lundy, Rochester, Minn., in *Jl. Lancet*, Nov., 1950.

Deafness from Meniere's disease must be differentiated early. Vertigo and tinnitus are chief symptoms. Early use of peripheral vasodilators will restore hearing to some extent.

Traumatic nerve deafness is on the increase and industrial firms are now taking steps toward alleviating excessive noises. Some require audiograms before employment. Noise prevention programs are in force in many factories.

Deafness is a feature of a large number of cases of hysteria.

The modern hearing aid is developed to a high level of efficiency. Some patients say they hear better with such an aid than they did 15 years ago, although their speech loss by test had dropped 20 to 30%. The difficult cases are those of traumatic and severe nerve deafness. Sometimes a small ear trumpet serves better for these patients.

For the very deaf the hearing aid is of little value. Lip-reading and auditory training are here of greatest aid.

DEAFNESS FROM DIHYDROSTREPTOMYCIN

C. R. W. BURG, M.B., Ch.B., First Assistant Physician, East Fortune Hospital, Drem, North Berwick, England, in *British Med. J.*, Sept. 15th.

In the *American Review of Tuberculosis* of Jan., 1951, there appears a note in which it is stated that dihydrostreptomycin is more toxic than streptomycin; at the same doses it was found that in adults, but not in children, dihydrostreptomycin caused partial to total deafness in a very high percentage of patients. The statement warrants widespread publicity; for it is distressing to save one from tuberculous meningitis only to render him or her totally deaf, especially if this can be avoided.

In August, 1949, a 25-bed unit was established in this hospital for the treatment of tuberculous meningitis and miliary tuberculosis. Thirty cases of the former have been treated and four of the latter. Intensive antibiotic therapy has been used in all cases. For an adult with meningitis: 1st course, 2 g. daily in two doses (IM) for four months, and 100 consecutive intrathecal inj. of 50 mg. daily, then a rest period of 14 to 28 days, depending on response to the first course; 2nd course 2 g. daily in two doses (IM) for three months, and 50 intrathecal inj. of 50 mg. at two-day intervals. Reductions in dosage were made according to age and not to body weight. For an adult with miliary disease without meningitis a 4-mo. IM course of 2 g. streptomycin daily was given. A rest period of one month and a second course of IM streptomycin for one month. P. A. S. was usually given throughout the stay in hospital.

All those recovered treated with streptomycin have now been discharged, except two who are still in hospital simply because home conditions are unsuitable. All these patients can hear a forced whisper at 12 feet without difficulty. In July, 1950, dihydrostreptomycin replaced streptomycin in the hospital.

Of the cases treated with dihydrostreptomycin, there have been 4 in whom marked impairment of hearing has occurred (2 totally deaf), either during treatment or soon after the completion of treatment.

The degree of deafness in all four cases is now gross. It is a nerve deafness. In the second two cases the impairment of hearing probably began during treatment, but was not detected until a month after discharge. This suggests that, once the auditory nerve has been damaged by the drug,

progressive impairment of hearing may occur after all therapy has ceased.

There appear to be no grounds for continuing to treat cases of tuberculous meningitis with dihydrostreptomycin rather than streptomycin.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Maconboro, Va.

THE COMMON COLD¹

THERE is still much confusion as to what a cold really is. It seems important to state the criteria: (1) The subject must be perfectly well before the onset of the cold, and (2) He must have no chronic nasal disorder to confuse the picture. When these criteria are observed, the common cold emerges as a disease with definite characteristics.

1. The onset with malaise, chilliness, dullness, aching, which often precedes local symptoms by several hours.

2. In some cases slight fever.

3. Local burning, discomfort and dryness of the mucosa of the upper air passages.

4. The discomfort usually spreads up or down during a period of a few days, depending on the site of onset.

5. There are no visible lesions in the throat, nose, pharynx, or larynx during the early stages, so, even when the patient is very uncomfortable, there are few signs to be seen. The nose is more likely to show alterations of mucosa.

6. The disease never lasts over five to seven days unless there are complications.

7. There is leukopenia.

8. There is always a tendency to sinusitis, purulent rhinitis, otitis or bronchitis caused by ordinary bacteria. There is no purulent exudate until secondary infection sets in.

The common cold spreads rapidly in outbreaks, from person to person, by contact.

There is no specific diagnosis. The method of human transmission is undetermined; there is no immunologic reaction, and no recognizable disease is readily produced in animals.

Diagnosis is only by clinical methods. There is no prophylactic method of proved value. Antihistamines may be harmless but carefully controlled studies at various places demonstrated that antihistamine drugs do not prevent, abort, shorten, reduce or stop the common cold.

The common cold is a specific virus infection which may be thwarted by resistance of the host or promoted under some conditions of exposure to cold or by other influences. Treatment remains symptomatic—rest, safeguarding, local applications and general sedatives. Secondary complications by ordinary bacteria may occur. These may be helped by antibiotics.

EMOTIONAL PROBLEMS OF HIGH BLOOD PRESSURE

PAIN in the precordium, palpitation, dyspnea and fatigue are a group of symptoms frequently deoting the cardiac neurosis of hypertension. The symptoms are frequently out of proportion to the disease, there is much conflict in the personality make-up, and relatively superficial psychotherapy will often prove of great benefit. A long-time study by Weiss, Jaffé and Fischer,¹ of unselected, consecutive patients seen in a hypertensive clinic found that a high incidence of emotional disorders had existed in these patients prior to the development of hypertension, and that the precipitating factors which produced the symptoms, which often lead to the discovery of the hypertension, had been definitely related to the premorbid personality. It was concluded that the emotional component entered into the problem of treatment of nearly all patients with hypertension, and while this approach does not offer a complete solution to the hypertensive problem, it is a practical method of dealing with a set of important factors which may be modified. If the repressed hostility, which has some relation to hypertension, can be improved by psychotherapy, anxiety is diminished and sometimes the blood pressure is lowered.

1. *General Practice Clinics*, December, 1950.

PEDIATRICS

GAYLE G. ARNOLD, M.D., *Editor*, Richmond, Va.

ADVERSE MERCURIAL REACTIONS

IN THE LAST FIVE YEARS a "new" disease has been greatly publicized, and speculated on, including a previous reference in this column. This symptom complex has many names, including acrodynia, pink disease, erythroedema and Feer's disease, and has been considered at various times post-infectious, a viral, allergic, endocrine, or toxic disorder, a deficiency or a disease of the gastro-intestinal tract.

In a recent 40-page monograph,¹ Dr. Warkany, of Cincinnati, presents most conclusive evidence that acrodynia is a disease of chronic mercury intoxication plus an individual idiosyncratic reaction of the child to mercury.

The description of acrodynia found in Brennemann's *Pediatrics* lists as significant symptoms pink hands and feet, desquamation, scarlet cheeks and tip of nose, alopecia, salivation, loss of several or all of the teeth, sweating, maculopapular rashes, hypotonia, itching, burning, and severe pain of the extremities, increased pulse rate and blood pressure, extreme photophobia, insomnia, and apathy, alternating with extreme irritability. Any or all of these may be present, and cause suspicion of acrodynia, or at least a toxic reaction of some type.

Chronic arsenic intoxication can give many of these symptoms and signs.

Warkany analyzed the urine of 40 children with acrodynia. (At least 500 c.c. of urine should be collected, and it is analyzed according to the technique of Hubbard.² 91.7 per cent of patients with acrodynia had increased amounts of mercury in the first specimen. 8.3 per cent of children who did not have acrodynia had small but measurable amounts of mercury in the urine, demonstrating that a child may receive, absorb, and excrete mercury without getting acrodynia.

Warkany admits: It will be difficult to convince physicians who have been "raised on calomel" of the mercurial origin of acrodynia. Sources of the mercury included calomel containing worm remedies and teething powders (chief offenders), ammoniated mercury ointment, and diapers rinsed in mercury bichloride. The editor has seen acrodynia following exposure to metallic mercury, which a plumber's child used as a toy, and following prolonged use of a popular eczema remedy.

The interval from exposure to disease state varies from one week to several months.

Treatment, other than prevention, is with dimercaprol (BAL).

1. Warkany, J., and Hubbard, D. M., in *Am. J. Dis Children*, March.

2. Hubbard, D. M.: *Indust. & Engin. Chem.*, 1940.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

PRACTICAL SOLUTION TO THE PROBLEM OF SCARCITY OF NURSES

NEVER has there been more said about the scarcity of nurses and doctors and less done about it. The reason seems to lie in the fact that the lay press has consulted the present-day nursing educators rather than those who have been put out of business as nursing educators, or those who have been refused admission to professional schools. One would not expect the opinion of the present-day educator to be different than his results. Therefore, if the results are not adequate to meet the demand, his thinking is inadequate.

Anyone can complain about any situation whether it be man-made or God-made; the problem is to find and apply a remedy. This can be done but it will not be done as a result of the present-day thinking of the educators. What then should be done?

First: every general hospital that is approved by the American College of Surgeons, the American Hospital Association or its State Hospital Association, should be allowed to open a training school. The size of the training school should be governed by the daily census of patients. This correct pro-

portion could easily be arrived at by taking the relationship between patients and nurses that is now in practice in the best hospitals that are running training schools.

Second: the curriculum should be revised so that students will not spend their time wastefully studying unnecessary subjects or putting too much time on necessary subjects. Anatomy, all agree, is a very important subject to the nurse. In one training school which the writer is familiar with requires 90 hours of the nurse's time for lectures in the first year, and that is entirely too long. This requirement is mandatory upon the school by the Standardization Board as are all of the rest of the requirements that have caused so many hospitals to close their training schools. Such requirements in many instances concern themselves very little with the practical running of a hospital.

It would seem unreasonable—yet this statement is made with shame since the writer is in the medical profession—to expect the doctors and nurses to voluntarily increase their own competition and herein a great moral question: Are we in the business for the good of sick mankind or are we in the business to make money? If, therefore, we cannot expect to increase doctors and nurses by appealing to the educators and Boards that standardize education, where can we turn? We must turn either to the lay public or to the profession outside of the educators. The writer hopes and prays that it will be possible to retain this most serious problem within the ranks of the profession, and for 20 years now he has continued to speak and write along these lines.

Third: all of the dilly-dallying about lowering standards in the education of nurses should be put in the waste basket, from there to the fire grate and then be shot up in smoke. The writer has never heard it expressed or intimated by the practicing nurse or doctor that any lowering of standards would be accepted or tolerated by them. This dilly-dallying has confused a number of prospective students to the point that they have refused to apply for admission to the training schools for nurses. Instead a girl will accept a position in a dime store, in a lawyer's office, or in a cotton or hosiery factory. There she can get a ride to and from work and there she can be with her people and there her life will not be bounded by unreasonable requirements in an impractical system of study. So the hospital in her community is deprived of a student nurse and later of a graduate nurse. If she should decide to go into training and the hospital in her community is not allowed to operate a training school then she is required to remain away from home during her three years of training. After that she is likely to remain where she knows the doctors and nurses and many patients.

Socialized medicine is a misnomer. However, for what people understand it to be, the meaning is clear. Many people want something for nothing, but the best people only want what they pay for. They have a right to demand medical and nursing care if they are willing to pay for it. At the present time they cannot get medical and nursing service regardless of their financial condition.

Any general hospital is capable of teaching a girl how to become a good nurse, how to give good nursing attention to sick people, and this is where the need is. If we as hospital owners and operators do not demand from the Standardization Board a more reasonable solution than is now offered by them, then we need not expect the public to handle us tenderly, considerately, and sympathetically. We have no right to sit idly by and allow a few educators to go off in a tangent, thereby depriving the citizenship of our democracy of the services of doctors and nurses.

INOCULATIONS AND PARALYTIC POLIOMYELITIS

(Mass. Dept. of Public Health, in *New England Jl. of Med.*, Aug. 2d)

Claims have recently been made that when poliomyelitis occurs within 30 days after immunizations the degree of paralysis is greater on the side on which the injection was made.

The original observer in Australia was able to collect only 31 cases in which there appeared to be a relation between immunizations and increased paralysis. An observer in London was able to collect only 30 cases, and two other workers surveyed a large part of England and were able to find only 42 more cases. Groups of similar size have been studied in this country. As yet there are no claims that a child is more likely to die of poliomyelitis because he has had a recent immunization.

After many years of promoting immunizations, Massachusetts has been able to reduce deaths from diphtheria from over 500 per year to less than 25 per year; from whooping-cough from over 400 per year to less than 15 per year. If we build up a fear of immunizations among parents in the State, we are likely to lose ground in the control of these two diseases.

DISINFECTANTS AND DISINFECTION

(*British Med. Jl.*, Sept. 15th)

The quaternary ammonium compounds, one of the most interesting and promising disinfectant groups of recent years, have special value for washing wounds, because, as well as being bactericidal and detergent, they are non-irritating and relatively non-toxic.

In 1881 Koch claimed that mercuric chloride was a powerful and reliable bactericide, but in 1889 Geppert showed that it was merely inhibitory. Mercuric potassium iodide, "merthiolate," "metaphen," mercurochrome, iodine, the hypochlorites and formaldehyde, are all purely bacteriostatic. Phenol is a true bactericide.

CORTISONE IN HYPOPIITUITARISM

(V. K. Summers, M.D., in *British Med. Jl.*, Sept. 8th)

Three patients with hypopituitarism were treated with cortisone for 12 to 20 days. There was a pronounced clinical and biochemical improvement, though a peculiar psychological change occurred after two weeks. This treatment seems to hold out much promise for the future.

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SOCIAL ASPECTS OF PSYCHIATRY

A WELL-INFORMED AND THOUGHTFUL NEUROLOGIST¹ said recently "what passes for social psychiatry is barely out of the religious or supernatural stage, and quite deeply immersed in the speculative or metaphysical." Many doctors who have not been able to keep up with a lot of what our psychiatric friends claim will welcome this statement and wish to hear him further.

Every individual develops as the participant in a living web of interaction. By the interaction he is moulded continuously into forms that reflect the human beings who have surrounded him. So each individual is a product of his society, just as his society is in some small measure also a product of his interaction with it.

The social influences to which the patient has been exposed within his family, at school, at work, during war, in marriage, through religion and politics and recreation, are all necessary to our understanding of how he has become what he is. We use all the socialising influences we can while the patient is under our care in hospital, and we take pains to fit him for his return to society, perhaps by altering much of the social setting to which he will return.

A grave objection to the psychiatric method of interpreting and using social data is that psychiatrists differ in theory of social psychology that they bring to bear. Not all psychiatrists are Freudians. As psychiatrists have no more worldly wisdom than other people and vary widely in outlook and experience, the social aspects of psychopathology, prognosis and treatment will be unduly mutable and dependent on which psychiatrist is looking at them.

Schemes for the prophylaxis of mental disorder by social means are still in many respects based upon faith rather than evidence. Enthusiasm may be so great that it makes for confusion between what is factual and what are still beliefs unsupported by evidence. Surveys that have been carried out to show the relation of economic or political changes to the incidence of various sorts of mental disorder, or the respective influence of rural and urban conditions upon the occurrence of first attacks of mental illness, are for the most part inconclusive.

That there should be an association between the amount of mental disorder and the amount of misery and social disturbance in various areas is not surprising. But whether this is to be regarded as a cause and effect relation is disputable. The gap is enormous between what inquiry has demonstrated and what the psychoanalyst believes he knows.

¹ Aubrey Lewis, Univ. of London, in *Edinburgh Med. Jl.*, May and June.

The clinical psychiatrist is probably not the ideal person to carry out and appraise the value of research into social causes of mental disorder. Some agreement must be had about the criteria to be applied in deciding what findings are sound and have meaning. The only ban need be upon word-magic; semantic weeds and paralogisms flourish exceedingly in the soil of psychology.

It is mainly in some inherent condition in the individual that the cause of suicide lies. A quarter of the population are responsible for 35.9 per cent of the suicides in London. In Holborn the rate was 35.9; in Deptford 13.1. Poverty, overcrowding and unemployment had little to do with suicide. The seven boroughs with the highest "isolation" (living alone in private houses) rate are all in the upper quartile of those ranked according to suicide rate; and all the boroughs with a suicide rate below 16 have a lower proportion of people living alone than the average for London. Similarly the correlation between suicide rate and proportion of population living in boarding-houses and hotels. It is clear that the areas where there is most suicide are the areas where most people live alone; and that there is least suicide in areas where fewest people live alone. The areas with the most stable population have low suicide rates. The divorce rate and the illegitimacy rate for the boroughs showed a significant positive correlation with suicide. The rate for juvenile delinquency, however, showed a low correlation with suicide.

These are findings which any sensible and well-informed person would have predicted, and to talk of ecological study eliciting them is to give a pretentious name to a rather unwieldy means of demonstrating what is well known. The ecological method leads to a more precise formulation of the further inquiries and experiments which should be put in hand; and it helps to lessen that expense of spirit in a waste of words which is often the profitless, though sincere, activity of mental hygienists.

Psychiatrists do not agree about the definition of ill health: if they did there would be less divergence of opinion regarding the efficacy of methods of treatment. Is inability to work, for example, a symptom, irrespective of whether the inability arises from a neurotic anxiety, a hypochondriacal self-concern, or a hysterical attitude towards a fellow-employee?

The difficulty of deciding whether a person is healthy or ill is far more frequently met and more intractable in psychiatry than in any other branch.

In 1931 a series of men on "out-relief" were referred by a Public Assistance Committee as being unemployable because of "neurosis," their neurotic symptoms were assumed to be largely the outcome of their long periods of unemployment; previous history and present state as evidence of inherent deficiencies.

It is obvious that in determining what are psychological handicaps we may be taking a lot for granted, and that we need to specify "handicaps for what." Much of the propaganda which assumes that neurosis means partial disability ignores the vast amount of sustained and valuable activity for which society is indebted to people with neurotic features of personality or neurotic symptoms.

Low intelligence is compatible with good productivity among the unskilled workers.

It is obvious that the social potentialities of officially certified high-grade defectives, and of course of other high-grade defectives, are not fully realised. There is a striking and ironical similarity between the range of problems encountered in studying mentally defective adolescents in this inquiry, and those discerned in an investigation into university students during the last three years.

There is no incompatibility between the clinical method and the sociometric, no rivalry between the ecological and the genetic study of abnormal personality. It is only when, instead of research we turn to panaceas and promises to remedy grave ills quickly, that some of the exponents of a socially oriented psychiatry allow themselves strange and arrogant liberties.

There are few problems of man in his social relations which do not at some time force themselves on the psychiatrist intent upon his central task of recognising and treating mental illness in any of its forms. But it is pretentious folly for him to claim that he has more to contribute than others, or that all these problems are equally close to his professional interest, equally suited to his modes of inquiry, equally likely to yield any true or profitable answer to the sort of question he will ask: it is even worse folly when he claims already to know how to prevent and cure the ills of society.

What reader will not applaud the wisdom of this concluding paragraph?

The psychiatrist is, in his clinical practice, bound to confine himself to the recognition, the treatment and prevention of illness. This is a wide enough task, in all conscience; and gives him no license to prescribe for all the social and other discomforts he sees in the world, even though he can "raise a connection between these and the ills of his patients.

THE MECHANISM OF PAIN AND ITS RELIEF BY PHYSIOTHERAPEUTIC MEASURES

MOST OF US suffer from aches and pains from time to time but we recognize these sensations for what they are, the aches and pains of everyday life, and we disregard them; but there are some people to whom these everyday pains appear as distressing and disabling symptoms requiring treatment.

There a Britisher¹ puts in meaningful language what, it may be supposed, many mean when they

say certain persons have "a low threshold of pain."

Such patients, Kellgren goes on, often derive some benefit from physiotherapy, particularly if the treatment is elaborate and impressive and creates the atmosphere that something is being done. Yet this benefit is often shortlived, and if one is too successful in curing the old pain, such patients are apt to return with a new one in some other part of the body and so become chronic haunters of treatment clinics.

Then there are those in whom mental tension expresses itself as widespread muscular tension. They move stiffly and awkwardly, contracting agonists and antagonists simultaneously. This muscular inefficiency leads to fatigue and painful muscle strains. There is also the completely psychogenic pain, in which the patient has projected his emotional anguish into some convenient part of the body where he keeps it quite cheerfully as an "agonizing pain." These pains are bizarre in distribution, constant in intensity, and completely unaffected by any form of therapy; indeed—and here is an idea for you—we are probably doing the patient a disservice in attempting to undo his solution of his agonizing problem.

It is useful to think of the cause of pain in terms of disorders of the pain nerves themselves, and disorders of the surrounding tissues. The latter are the more common. These chemical pain mechanisms tend to be in a state of delicate equilibrium and they are greatly affected by the state of the local blood flow, since the circulating blood tends to remove or destroy the pain-producing substances. In many instances arterial occlusion of only a few minutes' duration produces the most dramatic increase of pain; while venous congestion produces slight pain and is not progressive.

In a raw climate the t. in the muscles and joints is usually well below 37° C.; in the extremities it may fall below 30° C., when blood flow becomes very low indeed. A great increase in blood flow and relief of pain may therefore result from warming the part. If deep tissues are cooled rapidly pain is felt from 30° to 15° C., but as cooling proceeds analgesia develops and becomes complete when the tissue t. reaches 10° C.; but if the tissues are cooled slowly analgesia develops without pain.

Cutaneous pain takes precedence over deep pain in consciousness and this fact may be used to mask certain tiresome deep pains of low intensity. Most physiotherapy should be directed at the diseased structure from which the symptoms are arising, but if we are aiming at masking deep pain the cutaneous patches should be placed over the part to which pain is referred irrespective of its source.

Physiotherapy may also relieve pain indirectly by preventing the development of painful states.

I. J. H. Kellgren, M.D., in *Proc. Royal Society of Medicine (London)*, July.

Thus, by regaining full motion in stiff joints, painful sprains of these joints are prevented. Similarly weakened and wasted muscles, and muscles in poor training, are very liable to recurrent painful strains, which can be avoided by suitable muscle training. Where deformity or other mechanical defects such as torn ligaments are a source of recurrent painful sprains and strains, intensive muscle training may overcome the mechanical defect. Indeed this indirect method of relieving pain is probably one of the most valuable fields of physical therapy.

A complaint of pain may result from: (1) Disorders of the body tissues such as are commonly found in trauma, infections or rheumatic disease. In these conditions chemical mechanisms are prominent, and much relief may be obtained by the correct use of physiotherapy. (2) Disorders of the pain receptors and pathways in the nervous system such as occur in painful nerve injuries and neuropathies. (3) An abnormal emotional, intellectual or reflex reaction to a painful sensation which is not in itself remarkable, or it may result from gross psychiatric disturbances. In these cases it may be unwise to treat the part complained of because it is not the seat of the causative disorder.

The definition of "pain" defies the efforts of poets, lexicographers and scientists. Sherrington's definition (1906), "physical adjunct of an imperative protective reflex," fails at the clinical level. About 320 B. C. Aristotle described it as "a passion of the soul." In 1941 Sir Thomas Lewis suggested that some histamine-like body, possibly acetylcholine, was concerned in the pain mechanism. Wolff and his co-workers (1948) were able by laboratory methods to differentiate between the perception of pain and the reaction to pain.

Adrian (1950) wrote, ". . . pain signals themselves play little part in the elaboration of cortical and mental patterns," and elaborated thus, "it is the thoughts associated with pain—fear of death, anxiety, disappointment, etc.—which start the cortex building up and elaborating these thoughts and thus gradually creating the individual's general concept of the experience."

Prefrontal leucotomy performed for intractable pain affords some support for the idea of differentiation between perception and reaction, and such patients are able to cease analgesic drugs without exhibiting the usual "withdrawal syndrome."

Physical measures which relieve pain do so either by suggestion (directed to the reaction component), by "counter-irritation" (which prevents spatial summation from operating) or, where direct current is used, by inactivating the hypothetical cell-enzyme. Heat, by increasing the local circulation, reduces the concentration of the intermediate substance. When rest is effective it operates by reduc-

ing frictional irritation in muscles, tendons and peri-articular structures. Modified exercise may relieve pain in peripheral circulatory failure by improving the collateral circulation.

Wolff's (1947) lately re-enunciated theory of internuncial neurones in the dorsal horn, first put forward by Sturge in 1883, in conjunction with a specific cell-enzyme, might explain many problems in connection with the pain mechanism, more particularly areas of hyperalgesia remote from injured tissue, "phantom" limb pain, and some anomalies of referred pain which cannot be explained on a segmental basis.

THE EARLY DIAGNOSIS OF POLIOMYELITIS

I. A. J. Steigman, Louisville, in *JL Kentucky Med. Assn.*, Aug.

WHEN poliomyelitis virus becomes disseminated in a community, for every case which can be recognized there are many silent infections. These are either asymptomatic temporary carriers, or else have so mild and brief an illness as to defy any detection. In that *relatively small* group with any detectable illness, we find

- (1) Paralytic, including spinal, bulbar and encephalitic
- (2) Nonparalytic, and
- (3) Abortive cases (which probably predominate).

Steigman¹ does well to emphasize this point, and a good many others, as you will see as you read on.

Abortive poliomyelitis is a presumptive clinical diagnosis which can be made with any degree of confidence only during a poliomyelitis outbreak. Then a child or adult with headache, sore throat, lassitude, disinterest in play or food, and a change in bowel habit (particularly constipation), arouses suspicion. If are added t. 100 to 103, it becomes likely that the host-poliomyelitis virus fight is on.

All such patients are to be kept in bed at home until fever- and symptom-free for 48 hr. Despite bed rest some will go on to the non-paralytic and paralytic forms, but the majority will be spared. No benefit is observed from the use of antibiotics.

Patients with presumptive diagnosis *should not be reported* to the authorities as poliomyelitis; it is rarely, if ever, justified to make a statement even suggesting this disease to parents or patients.

Except for infants, the active tests carried out by the patient himself should be done first. Asked to sit up unassisted, if this causes undue effort, if the brow wrinkles from pain, if the knees flex upward sharply, if the child turns a bit to the side in sitting up, and then places his hands on the table or bed behind him, there is nuchal and spinal rigidity; while sitting, learn if he can flex chin toward the chest freely. With the child recumbent, press knees down gently and ask him to sit up and kiss the knees. If the knees are drawn up sharply, or if

the maneuver cannot be completed there is neck-spine rigidity. If still undecided Kernig and Brudzinski signs are sought. Gentle flexion of the occiput and neck forward will elicit neck rigidity. Head drop is elicited by placing one's hands under the shoulders and lifting forward.

In these early stages the reflexes are normal. Generally, changes in reflexes, either hyper or hypo, precede the weakness by 12 to 24 hrs. Usually the superficial reflexes are the first to be diminished, i.e., the cremasteric, the upper and lower abdominal; and the reflexes of the spinal and gluteal muscles, which deserve to be tested more often than is done, and are readily tested by lightly tapping segmentally downward on each side of the spine. Changes in the deep tendon reflexes, whether exaggerated or depressed, may, a bit later on, herald impending weakness.

After examining throat, tongue and palatal muscles, ask to say "cookie," "candy." Clear pronunciation reassures. Bulbar type is heralded by nasal voice before swallowing becomes difficult.

Exposure to poliomyelitis virus may result in (a) completely silent infection; (b) abortive poliomyelitis—with no signs of meningeal or other C.N.S. change and which may masquerade as influenza; (c) nonparalytic poliomyelitis—with neck-spine rigidity, but no weakness; or (d) paralytic poliomyelitis of varying severity.

One clinical form may blend into the next more severe stage. Fatigue, trauma, inoculations and related stress may precipitate silent infection into overt disease. The early presumptive diagnosis of abortive poliomyelitis accompanied by bodily rest is important.

The diagnosis of poliomyelitis is clinical. *There are no ready confirmatory tests.*

ANATUBERCULIN VACCINATION PROTECTS

(Editorial in *New England Jl. of Med.*, August 9th)

In Italy, Petragnini's anatuberculin (killed tubercle bacilli), instead of B. C. G., is the prevailing means of vaccinating children against tuberculosis.

During the war years, an overcrowded institution for babies near Venice was the site of an epidemic of active tuberculosis. The massive exposure was believed to be due to the admission of babies with active tuberculosis and to their being left in close contact with other babies in small rooms. Of 134 babies in the institution, 54 had been vaccinated with Petragnini's anatuberculin; 78 were unvaccinated. Of the 54 vaccinated infants, nine developed within one year a tuberculous infection, all being of the hilum glands; there were no deaths. Of the 78 nonvaccinated infants, 21 developed tuberculosis, nine having hilar lymphadenitis and the other 12 exudative lesions—acute miliary, meningeal or active pulmonary; 11 died.

The epidemic had brought about an unintentional but quite conclusive experiment, which indicates the efficacy of Petragnini's anatuberculin in protecting infants against tuberculosis. Even infants who receive the prophylactic injections as short a time as one month prior to the epidemic appeared to receive protection.

NEWS

MEDICAL COLLEGE OF VIRGINIA, RICHMOND

THE TWENTY-THIRD ANNUAL STUART MCGUIRE LECTURE SERIES AND A SYMPOSIUM ON CARDIAC SURGERY and CARDIOLOGY, November 7th-9th, 1951.

All lectures will be held in the Baruch Auditorium of the Egyptian Building. There is no charge for the McGuire Lectures themselves. There will be a charge of \$5.00 a day for the lectures given during the days of November 8th and 9th, except to members of the faculty of the Medical College of Virginia, the Medical Department of the University of Virginia, the physicians of the McGuire Veterans Hospital, medical students, and members of the house staff of any hospital. Due to seating capacity limitations it is necessary to limit the attendance. It will be greatly appreciated if you will advise the College as promptly as possible if you plan to attend.

Visiting Lecturers

Charles P. Bailey, M.D., Professor and Head of the Department of Thoracic Surgery, Hahnemann Medical College, Philadelphia, Pennsylvania.

George E. Burch, M.D., Professor of Medicine, Tulane University School of Medicine, New Orleans, Louisiana.

Daniel F. Downing, M.D., Assistant Professor of Pediatrics, Hahnemann Medical College, Philadelphia, Pennsylvania, and Associate in Cardiology, St. Michael's Hospital, Newark, New Jersey.

Richard W. Eckstein, M.D., Assistant Professor of Medicine, Western Reserve University School of Medicine, Cleveland, Ohio.

Harold Feil, M.D., Clinical Professor of Medicine, Western Reserve University School of Medicine, Cleveland, Ohio.

John H. Gibbon, Jr., M.D., Professor of Surgery and Director of Surgical Research, Jefferson Medical College, Philadelphia, Pennsylvania.

Donald E. Gregg, M.D., Chief, Department of Cardio-Respiratory Diseases, Army Medical Service Graduate School, Washington, D. C.

Hector Redondo-Ramirez, M.D., Associate to Dr. Bailey.

Irving S. Wright, M.D., Professor of Clinical Medicine, Cornell University Medical College, New York City.

UNIVERSITY OF VIRGINIA DEPARTMENT OF MEDICINE

Commemorating the 100th Anniversary of the birth of Walter Reed, graduate in Class of 1869, and opening the Friday Evening Medical Lecture Series, Dr. William B. Egan, Professor of Internal Medicine of the University of Iowa, spoke October 5th on "Walter Reed, the Study of a Disciplined Mind."

Other speakers for the fall program of the Friday Evening Medical Lecture Series are Dr. George A. Perera, Department of Medicine, Columbia University, on "Essential Hypertension and Its Endocrine Relationships," October 12th; Dr. F. Bayard Carter, Department of Obstetrics and Gynecology, Duke University, on "The Menopause," October 19th; Dr. Julius H. Comroe, Jr., Department of Physiology and Pharmacology, University of Pennsylvania, on "Dyspnea," October 26th; Dr. Alan Moritz, Institute of Pathology, Western Reserve University, "The Medical and Medico-Legal Implications of Unexplained Deaths," November 2d; Dr. Richard J. Bing, Johns Hopkins University, on "New Aspects of the Physiology of the Heart," November 9th; Dr. Clarence C. Little, Jackson Memorial Laboratory, Bar Harbor, Maine, on "Genetics in Relation to Basic and Clinical Research in Cancer," November 30th; Dr. Alton Ochsner, Tulane University School of Medicine.

on "The Early Diagnosis and Treatment of Gastric Carcinoma," December 7th.

EDGEWOOD SANITARIUM FOUNDATION

September 20th and 21st, the second annual series of the Fowler Lectures was held at the Foundation, Orangeburg, S. C. a two-day session on alcoholism and drug addiction with three additional lectures being devoted to the subject "Religion and Psychiatry." Contributors to the program were Dr. Harry Isbell, Director of Drug Research, U. S. P. H. S.; Dr. Leon Greenberg, scientist, author and inventor of the alcometer of Yale University; Dr. Francis McPeak, minister and Industrial Counselor, Chicago; Dr. Raymond McCarthy, Director Educational Activities on the Connecticut Commission on Alcoholism; and Dr. Aaron Rutledge, minister, marriage counselor and professor at Furman University. Physicians, social workers, nurses, psychologists and welfare workers were in attendance from North Carolina, South Carolina and Georgia, also educators, clergymen, legislators, judges, youth group leaders, Parent-Teacher members, and mental hygiene groups.

THE NEW YORK ACADEMY OF MEDICINE, a non-profit tax-exempt educational institution, was founded in 1847 by a group of 180 physicians of this city. Today its roster numbers some 2,800, all elected upon nomination by the Fellowship itself. The Council, made up of the President, three Vice-presidents, Treasurer, Secretary, ten Trustees and the Chairmen of the five Standing Committees, has final decision on all Academy affairs. At the close of 1950, the total assets for which the Trustees were responsible amounted to \$9,101,000. Of this amount, \$3,466,100 was represented by building, books, furnishings, etc. The budget for the Academy for 1951 is \$471,798. Investments make up a portfolio which amounted to \$6,379,424 at the market as of the close of 1950.

—H. R. Craig, Director.

TENTH DISTRICT MEDICAL SOCIETY held its third annual Western North Carolina Medical Symposium October 3d, at Asheville.

Features of the program were essays and addresses:

Hypothyroidism in Children, Dr. Weston M. Kelsey, Associate Professor of Pediatrics, Bowman Gray School of Medicine, Winston-Salem; The Cardiac Patient as a Surgical Risk, Dr. Francis C. Wood, Professor of Medicine, University of Pennsylvania, Philadelphia; Carcinoma of Colon and Rectum, Dr. Richard B. Cattell, Surgeon, Lahey Clinic, Boston; Office Gynecology, Dr. John L. Parks, Professor of Obstetrics and Gynecology, George Washington University, Washington; Acute Cholecystitis, Dr. Nathan A. Womack, Professor of Surgery, University of North Carolina, Chapel Hill.

Officers of the Society: Councillor, Dr. W. A. Sams, Marshall; President, Dr. George F. Bond, Bat Cave; First Vice-President, Dr. Donald M. McIntosh, Jr., Marion; Second Vice-President, Dr. Charles O. VanGorder, Andrews; Third Vice-President, Dr. James W. Berry, Bakersville; Secretary-Treasurer, Dr. J. B. Anderson, Asheville.

DUKE UNIVERSITY SCHOOL OF MEDICINE and DUKE HOSPITAL arranged a Series of Autumn Lectures sponsored by the North Carolina Academy of General Practice, October 13th and 27th-Nov. 10th.

A CANCER SYMPOSIUM, sponsored by the Forsyth County Medical Society, in cooperation with the North Carolina Division of the American Cancer Society, was held Friday afternoon and evening, October 12th, at the Robert E. Lee Hotel, Winston-Salem. G

Features of the program:

Malignant Lymphomas and Leukemias, Lloyd F. Craver, M.D., Associate Professor of Clinical Medicine, Cornell University School of Medicine; Attending Physician Memorial Hospital, New York City.

Tumors of the Breast, Frank E. Adair, M.D., Associate Professor of Clinical Surgery, Cornell University School of Medicine; Attending Surgeon, Memorial Hospital, New York City.

The Diagnostic Significance of a Lump in the Neck, Hayes Martin, M.D., Associate Professor of Clinical Surgery, Cornell University School of Medicine; Attending Surgeon, Memorial Hospital, New York City.

The Eighth Annual Meeting of the ASSOCIATION OF HONORARY CONSULTANTS TO THE ARMY MEDICAL LIBRARY will be held at Washington the 26th of October. Dr. Wilburt C. Davison, Dean of Duke University Medical School, is president of the Association.

W. THOMAS BROCKMAN, M.D., F.A.P.S., Diplomate American Board of Proctology, announces W. CLOUGH WALLACE, M.D., Associate Fellow American Proctologic Society, as his associate in Proctology, 304 East North Street, Greenville, South Carolina.

DR. M. PIERCE RUCKER, of Richmond, Editor of the *Virginia Medical Monthly*, has been elected to membership on the Board of Directors of the American Medical Writers' Association.

JOHN M. KESTER, M.D., announces the opening of offices for the practice of General Surgery, in Doctors Building, 1012 Kings Drive, Charlotte, N. C.

The Officers and Staff of WESTBROOK SANATORIUM, Richmond, entertained a great company of friends at a barbecue supper Friday, October 5th, at 5 to 7 p.m., in celebration of the 40th anniversary of the sanatorium.

DR. LOUIS CLARE GAUGIER, of Lynchburg, assistant on the medical staff at Lynchburg State Colony, has been awarded one of the French Republic's highest honors—Officer of the Legion of Honor. Dr. Gaugier practiced medicine in his native France prior to coming to the United States in 1938. He became a naturalized citizen in 1943. During World War II, Dr. Gaugier was medical expert for the French Consulate in New York and medical examiner for the French Military Mission in 1943.

NINE CASES OF INFECTED CRIMINAL ABORTION, 7 admitted in extremis, were treated with Chloromycetin; 7 patients showed good response. Three later had bilateral salpingectomy because of persistent adnexal masses. The others had such complete disappearance of adnexal masses and induration that surgery was not necessary. Proper levels of Chloromycetin were probably not obtained in 1 moribund delirious patient because of extreme difficulty in administration. Three cases of severe postpartum puerperal sepsis were also treated successfully with Chloromycetin.

Some women with pelvic inflammatory disease could be treated as outpatients with Chloromycetin, with a saving in cost of hospitalization.

—C. S. Stevenson, *Am. J. Obst. & Gynec.*, 61:498, 1951.

Lloyd in *Treasury of Health* (1585): "In al diseases of long continuance the pacient most use lytle meate & exquisite."

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BOOKS

PEPTIC ULCER—Clinical Aspects—Diagnosis—Management: Editor, DAVID J. SANDWEIS, M.D., F.A.C.P., Associate Attending Physician, Division of Internal Medicine, Harper Hospital, Detroit, Michigan. Editorial Committee, A. H. Aaron, Henry L. Bockus, George E. Daniels, George B. Eusterman, L. Kraeer Ferguson, A. C. Ivy, Sara M. Jordan, Frank H. Lahey, Walter L. Palmer, Harry Shay, Albert M. Snell, Dwight L. Wilbur. 790 pages with 164 figures. *W. B. Saunders Company*, 1951. \$15.00.

This book represents one of the first efforts by a national association of specialists to produce a comprehensive work dealing with an important and common disease. The names of the editor and of the members of the editorial committee fully assure a well-balanced production, emphasizing this or that neither too much nor too little, but giving to every means of diagnosis and treatment its true value.

PSYCHOSOMATIC GYNECOLOGY: Including Problems of Obstetrical Care, by WILLIAM S. KROGER, M.D., Assistant Clinical Professor of Obstetrics and Gynecology, Chicago Medical School; and S. CHARLES FREED, M.D., Adjunct in Medicine, Mount Zion Hospital, San Francisco, California. 503 pages. *W. B. Saunders Company*, Philadelphia and London. 1951. \$8.00.

There are two forewords: a gynecologic and a psychiatric. The writer of the former states that he has often been deeply impressed with the fact that the picture of every disease process presents psychosomatic problems. The writer of the latter says that the literature bearing on the specialties of obstetrics and gynecology in their psychosomatic relation has been more than doubled in the past 15 years.

Part I deals with psychosomatic aspects of fetus and infant, Part II with psychosomatic aspects of the mother during pregnancy; Part III with psychosomatic aspects of neuroendocrinology; Part IV with common psychosomatic problems, and Part V with methods of diagnosis and treatment.

Under the last-named head much of value is given in instruction of doctors other than neuro-psychiatrists in ways and means of treating conditions falling largely into the neuropsychiatric category.

AN ATLAS OF NORMAL RADIOGRAPHIC ANATOMY, by ISADORE MESCHAN, M.A., M.D., Professor and Head of the Department of Radiology, University of Arkansas School of Medicine. With the assistance of R. M. F. FARRER-MESCHAN, M.B., B.S. (Melbourne, Australia). 593 pages, 1044 illustrations on 362 figures. *W. B. Saunders Company*, Philadelphia and London. 1951. \$15.00.

This reviewer has many times made the suggestion that, in showing x-ray pictures before a group to demonstrate disease processes, a picture of the healthy corresponding anatomical part be exhibited side-by-side with the picture showing morbid change. This book carries out the idea behind the

suggestion in a different way. It correlates the normal with the abnormal anatomy and emphasizes the continual study of the normal. It is the announced purpose of the authors to make convenient for the student knowledge of the basic morbid anatomy as applicable to radiography, the manner of obtaining the projection employed, a fair understanding of the films so obtained, the anatomic parts best visualized on these views, changes with growth and development, and some of the commoner deviations from normal.

It is a large and important order; but an order which it may fairly be said the authors have filled.

CONGENITAL DISLOCATION OF THE HIP, by JULIUS HASS, M.D., Consulting Orthopedic Surgeon, Montefiore Hospital, New York City; formerly Professor and Chief of the Orthopedic University Clinic of Vienna, Austria. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$12.50.

An entertaining and instructive history of this affliction is given all the way back to Hippocrates. Then we have frequency of occurrence and classification and nomenclature. The chapter on pathology is particularly informative. Heredity is accepted as having an influence in 20 to 30 per cent of cases. Emphasis is placed on the great variations of the symptoms according to the age of the patient. Spontaneous restitution is spoken of. After the fifth year of life the prospects of material benefit dwindle rapidly, which emphasizes the importance of early diagnosis.

Lorenz method of closed reduction, amply illustrated, is given much space and minute description. It is suggested that in children under three years of age, with typical congenital dislocation of the hip, closed reduction is the method of choice; that for those of three to six years open reduction is indicated if closed reduction has failed.

There is a chapter on the reconstruction (shelf) operation, one on palliative procedures and a final chapter on treatment of the atypical congenital dislocation.

MANUAL FOR THE MICROSCOPICAL DIAGNOSIS OF MALARIA IN MAN, Second Edition, by ALMEE WILCOX, Public Health Service From the Laboratory of Tropical Diseases, Microbiological Institute, National Institutes of Health. *United States Government Printing Office*, Washington 25, D. C. 1950. 40c.

SWALLOWED INTESTINAL DECOMPRESSION TUBES (M. O. Cantor, Detroit, in *Amer. Jl. Digestive Diseases*, Aug. 1)

An intestinal-decompression tube swallowed by patient will usually pass through the gastrointestinal tract, in the absence of obstruction, in 4 hours to 18 days.

Failure of a tube to be excreted per rectum does not in itself constitute an indication for surgical intervention. Such failure in a reasonable length of time plus symptoms of bowel obstruction demands surgical intervention.

Intussusception of an intestinal tube caused by an air-filled balloon demands immediate surgery.

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JAMES M. NORWICH, M.D., Editor

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Ocular Changes in Vascular Diseases

I. S. TASSMAN, M.D., Philadelphia

THE recognition and proper interpretation of the pathologic evidences revealed by examination of the eyes with the ophthalmoscope can be of great aid, not only in the diagnosis of a systemic disease but also in following the course of certain diseases in the various stages. The ocular findings should be correlated with the changes found in the other organs and should be a part of the clinical record of the case just as the study of the blood pressure, x-ray and laboratory findings.

Perhaps every physician has what might be called a certain mental picture or criterion of the findings of various diseases as he has learned to know them. The conditions as they present themselves in the patient, however, are often so complex that even after a thorough study it is sometimes difficult to attribute the presence of the various lesions to any single process.

The changes in the eye grounds of diagnostic value are those which affect primarily the retinal vessels and subsequently the optic nerve head and the retina itself. It is difficult to speak of these changes as they occur in any one of the conditions considered without describing and considering the others. This is especially true because of the limitations of our knowledge of the mechanism of the occurrence of most of the diseases.

If, for example, hypertension is considered as a

condition in which there is an elevated blood pressure with or without other demonstrable signs, it may not be possible in an early case to make a positive ocular diagnosis, since hypertension in that stage may or may not produce visible changes in the fundus vessels. Before these alterations become well established, arteriosclerosis of the retinal vessels becomes a factor.

Most ophthalmologists agree that the first sign of hypertension to be noted in the retinal vessels is spastic contraction and narrowing of the arteries. Spasm occurs usually in a portion of the vessel, but later may affect the whole length. This can be observed in cases of hypertension of pregnancy, where it is followed, if progressive, by additional pathology, especially edema in the surrounding retina. This may subside leaving a retina of nearly normal appearance after delivery. Spasm and narrowing of the retinal arterioles are usually accompanied by dilatation of the retinal veins.

In younger people with persistently high blood pressure, ophthalmoscopic examination may be altogether negative, or the narrowing of the smaller retinal arteries may be the only sign present. Certainly this will be the first evidence revealed in the fundus. Here, also, arteriosclerotic changes in the retinal vessels are absent; whereas, in hypertension in older patients, which has persisted over a long period of time, arteriosclerotic changes in the retinal vessels are nearly always present.

As a later development of benign hypertension, we may see a retinitis characterized by edema of

the retina beginning at the nerve head and extending into the periphery, accompanied by the generalized narrowing of the retinal arteries, hemorrhages and white patches in the retina.

One of the first signs of retinal involvement is the appearance of a faint or slight edema which usually occurs near the optic nerve head or macula. An occasional, small hemorrhage may then be observed lying in close proximity to the retinal vessels. With the progression of the disease process, they may later be more extensive. They are usually accompanied by patches or exudates which, on ophthalmoscopic examination, are found around the macula and also in the periphery.

The "cotton-wool" exudates, fuzzy white patches in the superficial layer of the retina, are often seen in the retinitis of malignant hypertension, in severe anemias and in some other conditions. Histologically, these have been found to contain cytid bodies which can be stained in the flat specimen. They lie in the bifurcation of a terminal arteriole and represent a minute ischemic infarct.

As the condition of hypertension progresses, the edema in the retina becomes more marked, especially around the optic nerve head and macula. It may also involve the periphery and give the retina a swollen or boggy appearance. The fundus picture here as well as that seen in malignant hypertension occurring in younger patients closely resembles that found in nephritic retinitis and the laboratory findings must be considered, together with the ophthalmoscopic evidences in order to establish the presence of nephritis or renal involvement. In the latter condition, the cotton-wool patches in the retina are also quite common. Together with the edema which is present in the retina, they are indicative of the acuteness of the process. Later in the course of the disease, they may no longer be seen. As these patches and edema subside, they usually leave a "star-shaped figure" around the macular region where infiltration has occurred between the loose nerve fibers in this region. It is still difficult to attribute the presence of retinopathies in glomerulonephritis to any single mechanism. They have been variously designated as "angiospastic," "hypertensive," "ischemic," "anoxemic" and "arteriosclerotic."

In arteriosclerosis, the prominent changes in the retinal vessels include changes in the color of the arteries and increased brilliancy of their light streak, changes in the caliber of the lumen, increased tortuosity, and thickening of the perivascular sheaths of the arteries. The last is more common in secondary or post-inflammatory sclerosis. The retinal veins, especially the smaller ones, will also show a tortuosity and irregularity, and where the arteries cross the veins, a compression of the underlying vessel can be noted, the phenomenon known

as arteriovenous compression. As a result, the compressed vein may be dilated at the point of crossing. When the general condition is advanced and these changes in the retinal arteries have become marked, they have been variously termed as "silver-wire arteries," "pipe-stem arteries," etc.

The earlier evidences of retinal arteriosclerosis may be present for some time without hemorrhages occurring in the retina. The latter usually appear in the more advanced cases and also in association with hypertension. They are usually linear and occur parallel to the vessels and are caused by rupture of the vessels because of occlusion. Continued pressure of a sclerosed artery on a vein may ultimately result in thrombosis and venous hemorrhages of various sizes, according to the size of the vessels affected.

The degeneration which takes place with oncoming age is manifested by a diffuse atherosclerosis. This usually becomes more pronounced at about the fifth decade of life. The degree of sclerosis may be far in advance of the changes in the organs and tissues. The blood pressure is usually normal. The ocular manifestations are therefore very minor or absent. Perhaps the only changes seen are those which affect the retinal vessels and these are characterized by a dull light streak and pallor due to translucency. This is followed later by increased tortuosity, constriction, copper-wire appearance sheathing of the walls, and compression of the veins. In the absence of other complications such as hypertension and complete obstruction of the lumen of the vessels in well advanced cases, no other changes in the retina may be found.

Obstruction of the central vein of the retina or one of its branches may occur occasionally in advanced arteriosclerosis in older patients, especially those who suffer also with cardiac disease. This is characterized by a sudden loss of a great part or all of the vision in the affected eye.

Ophthalmoscopic examination will reveal the presence of distended, tortuous veins and numerous large hemorrhages which cover the retina. Many of the larger hemorrhages occur close to the disc which may be obscured. Some of the hemorrhages may clear up after a while but others will appear. Secondary glaucoma may be a complication. In many older patients with a generalized sclerosis, cataract is also a rather common occurrence.

In the more advanced stages of the arteriosclerotic process, the blood supply to certain portions of the retina becomes inadequate, and now changes may be found in the retina itself. These are characterized by the appearance of grayish opacities near the optic disc or along the vessels, a brick-red congestion of the disc with blurred margins, and hemorrhages in the form of linear or streaked extravasations along the vessels in the nerve fiber

layer, or round hemorrhages scattered over the fundus in the deeper layers.

The hemorrhages either absorb, leaving areas of retinal atrophy covered with granular pigment, or organization occurs which results in the appearance of round, white plaques. Other white plaques may appear as the result of lipid infiltration and degeneration from the lack of blood supply. They are common about the disc and macular region. This condition is also a patchy process with involvement of certain areas in one or both eyes, while other areas are unaffected. In this stage of the process the patients are more apt to show elevation of blood pressure and even evidences of renal involvement.

It is important to consider the presence of both arteriosclerosis and hypertension in patients suffering with diabetes. Evidences of either one or both of these conditions are very often found to be present in the fundus of these patients. Retinal arteriosclerosis, for some reason, is nearly always seen on ophthalmoscopic examination of diabetics. Early in diabetes, the fundus changes may be minimal since the retinopathy apparently depends on the duration of the disease rather than the degree of hyperglycemia at any particular time. Capillary fragility is increased in diabetes. When the disease has been present for some time, small, round petechiae will appear in the deeper layers of the retina which are usually accompanied by discrete yellowish patches in the retina. The latter have a tendency to group themselves around the region of the macula in the form of a circle or part of a circle. These petechiae and patches are characteristic in their location and appearance and diagnostic of diabetes. The small, round hemorrhages have been proven to be small, capillary aneurysms and may occur in any portion of the deeper retina below the retinal vessels. They are typical of the disease. Late in diabetes, hemorrhages in the retina may be more extensive. This is particularly true if vascular hypertension is present in the same patient.

In conclusion, the changes in the optic disc, retinal vessels and those occurring in the retina itself, are very important in the study of diseases of the vascular system. Their presence can in most instances be recognized early and the stage of the disease can also be determined. Continued observation of the ophthalmoscopic changes will aid greatly in following the course of the disease, and should be carried out together with sphygmomanometer readings, laboratory tests, and other studies.

RADIOACTIVE ISOTOPES IN MEDICAL RESEARCH, AND THILORAY (F. E. Kelsey, Ph.D., Chicago, in *J. A. M. A.*, July 21st)

When a radioactive atom disintegrates, the molecule carrying it is shattered and emanations of the beta, gamma or, less frequently, alpha and neutron types, are emitted from the nucleus. The biologic effects resulting from this dis-

integration are caused largely by these emanations rather than by the destruction of the molecule.

Alpha particles are heavy, doubly-charged particles composed of two neutrons and two protons and are identical with the nucleus of the helium atom. They produce intense, but localized, damage since they collide with other atoms in the immediate vicinity (within 0.05 mm.) more frequently than do the lower-charged and smaller beta particles.

Beta particles are high-speed electrons having a penetrating power up to 8 mm. (for phosphorus 32) in tissue, but their effects are primarily restricted to the immediate vicinity of the disintegration.

Gamma rays are similar to x-rays and penetrate many centimeters, influencing the intermediate tissues.

Neutrons, because they lack an electrical charge, also penetrate deeply but produce local effects from initial collision anywhere along the track.

The hazards involved in the use of radioactive isotopes are difficult to evaluate since there are no detectable biologic effects which can be used to discover incipient injury. Since the incidence of leukemia and allied diseases is ten times greater among radiologists than among other physicians, it is evident that the blood-forming organs are sensitive to radiations. Measurement of peripheral blood changes is the best control measure available, but these changes vary among persons and daily in the same person. The methods for measuring the hematologic constituents lack precision also. Routine x-rays of workers who may be exposed to radiation should be taken as seldom as possible because of the additive effect.

The greatest health hazard involved is the accidental ingestion of radioactive isotopes orally or by inhalations of vapors or dusts. The total body radiation from cosmic rays received by an individual during a 70-year lifetime is 20 to 30 r. Internally deposited, naturally-occurring radioactive isotopes add another 2 to 5 r to this amount. A chest x-ray results in an exposure of 0.4 to 2 r, and a complete gastrointestinal series may amount to as much as 40 to 75 r. Therapeutic application of roentgen rays to limited areas, as in the treatment of skin carcinomas, may be equivalent to 5,000 r or more. The fatal dose of total body irradiation in man being has been estimated at 400 r. For rats the fatal dose is 825 to 900 r, for guinea pigs 250 r, and for paramecia 300,000 r.

Radioactive isotopes have been found equal or superior to other forms of therapy for the treatment of chronic myelogenous leukemia, chronic lymphatic leukemia, lymphosarcoma, giant follicular lymphoma, and polycythemia rubra vera. They are of some value in Hodgkin's disease but are not helpful in acute leukemia and multiple myeloma. Radioactive isotopes are useful in the diagnosis or treatment of some types of carcinoma, especially primary or metastasized carcinoma of the thyroid, breast or testes. They are treatment of choice in many cases of hyperthyroidism. Externally applied they are of use in the treatment of certain skin lesions.

As diagnostic aids in locating the site of primary tumors or metastases, radioactive phosphorus as sodium phosphate, or radioactive iodine as sodium iodide or as diiodofluorescein, may be used. Radioactive sodium can be used to diagnose disorders of the peripheral circulation and the heart.

The availability of the radioactive isotopes for research furnished investigators with very sensitive new techniques. These new methods make possible the solution of many long-standing problems concerning the metabolism of drugs, since they can be applied where no satisfactory chemical or biologic methods are presently known.

A COMMON CAUSE of hunger pains has been proved to be constipation.

—*Ohio Med. J.*, July.

Hemorrhage from Marginal Sinus Rupture

WATSON C. FINGER, M.D., Charleston, South Carolina

IN an article, published in the January, 1951, *American Journal of Obstetrics & Gynecology*, Fish et al. describe a condition which, although common, has been little known or reported in either the American or the foreign literature. The condition is that of hemorrhage from marginal-sinus rupture. They found that this condition accounted for approximately one-third of their cases of bleeding in the late trimester of pregnancy and labor, or substantially the same incidence as was noted in their series, for *placenta praevia*.

The purpose of this paper is to present just such a case and the reader is referred to the excellent and complete discussion of this condition by the authors named for complete details.

A 23-year-old, white, married woman, gravida-2, para-1, was admitted at 10:00 p. m. on June 2d, 1951. Her chief complaint was of profuse, painless, vaginal bleeding. Her last menstrual period was given as January 3d, and it was stated as being normal in character. The patient had had no prenatal care. Two and one-half hours prior to admission painless, profuse vaginal bleeding began. The patient was washing dishes at the time of onset and the bleeding was in such amount as to flow down her thighs and legs to the floor. The bleeding was bright-red, none of it clotted. She complained of no weakness, giddiness or dyspnea. No alteration in fetal movements had been noted.

B. P. 100/62; temp. 98.4; pulse 86.

Abdominal examination revealed the uterus to extend three-quarters from the umbilicus to the xiphoid, with a pregnancy estimated at 5½ lbs., or about 8 months duration (this did not agree with L. M. P. given). The uterus was noted to be soft, non-tender, and no uterine contractions were felt. The fetal heart sounds could be easily heard in the left lower quadrant at a rate of 140 per min. Examination of the external genitalia showed evidence of fresh blood about the vulva and medial aspect of both thighs. A slow trickle of bright-red blood was noted to be coming from the vagina. Evidence of recent fresh blood was also noted on the soles of both feet.

Laboratory: Urine—neg.; R. B. C.—3.8 mil.; hgb.—60%; type-A; Rh—neg.

In view of the stage of pregnancy, as estimated by fetal size, an aseptic vaginal examination was done, with a tentative diagnosis of *placenta praevia*. No A-negative blood, and only 500 c.c. of O-negative, was then available. Until adequate amounts of blood could be made available, con-

servative management was decided on. The patient was put to bed and given 15 mg. morphine for sedation. Repeated determinations were made of the blood pressure, the pulse, and the fetal heart sounds.

Throughout the night there was a slow trickle of blood from the vagina, but this never reached an amount to be alarming. At 8:00 a. m. complaint was made of some backache, but no contractions could be felt at this time. She was given 100 mg. Demarol with good result. Blood had been promised for 5:00 p. m.

At 12:00 m., active labor becoming established, conservative management had to be abandoned. The patient was moved to the delivery room for aseptic vaginal examination. Fluids were started intravenously through a No. 18 needle. Examination revealed the cervix to be 7 cm. dilated with membranes bulging. No placental tissue could be palpated over the os or in the lower uterine segment. The membranes were then artificially ruptured. At 1:21 p. m. June 11th, a 5 lb. ½ oz. boy was delivered in good condition.

Manual examination before delivery of the placenta revealed the placenta to be in the fundus of the uterus. Upon delivery of the placenta, inspection showed the membranes to be centrally ruptured. No evidences of old blood clot or of depression of cotyledons of the placenta were noted. There was, however, a large (100-c.c.) collection of fresh blood at the site of a rent in the marginal sinus and extending out on the membranes.

Total blood loss was estimated at 400 to 500 c.c. Of this, 300 c.c. was prior to delivery (estimated by history and observation).

After delivery hgb. was 53% with 3 million R. B. C. Transfusions were given as blood became available and the patient was discharged in good condition.

Comment: A case of what we consider a typical example of hemorrhage from marginal sinus rupture is presented. On analysis the symptoms of this case will be noted to simulate those of *placenta praevia* very closely. This feature was noted in the article cited and the authors found this to be the chief differential diagnosis to be made.

In the case presented, we note that the bleeding was sudden, painless, profuse, and of a bright-red, unclotted type. No shock was observed, the blood loss at the onset proving insufficient to produce shock symptoms. Fish and his collaborators noted that antepartum bleeding, due to ruptured marginal

sinus, resulted in a high incidence of spontaneous premature labor, a feature not noted with placenta praevia. The case here presented did go into spontaneously labor, despite sedation. In placenta praevia there seems to be a predisposition to post-partum hemorrhage, this is not the case in ruptured marginal sinus.

The plea of Fish et al for expectant management of suspected cases of placenta praevia is borne out, in view of the high incidence of ruptured marginal sinus whose symptoms closely resemble those of placenta praevia.

ELECTROSHOCK THERAPY IN SCHIZOPHRENIA NOT AS GOOD AS OTHER MEASURES

(D. M. Palmer et al., Chillicothe, Ohio, in *Jl. Nerv. & Ment. Dis.*, Aug.)

A remission status in only 17.6% of the patients some five to 42 months after treatment is not a remarkable improvement rate, and does not compare favorably with figures of 10 to 15% given for "recoveries" after conservative treatment.

There is reason to believe that the greatest value of electroshock therapy in schizophrenia is in getting the patient into condition for other forms of treatment, such as psychotherapy and milieu therapy.

455 male veteran schizophrenics were treated with a single series of electroshock treatment with the following results:

198 patients (43.5%) showed either marked or moderate improvement.

70 of these 198 relapsed before they could be discharged.

128 were discharged with marked or moderate improvement (28.1%).

48 of the 128 had relapses after they left the hospital.

There was a definite relationship between length of illness and remission following shock. Those who remained discharged had a mean illness period of 15 months while those who remained hospitalized had been ill slightly over 39 months.

Those who responded well to electroshock were younger than those who did not improve, but the patients who responded satisfactorily had been ill a shorter period; and illness duration, and not age, was the important prognostic factor.

Whites responded more favorably than Negroes, both in terms of hospital discharge and in not suffering relapse after leaving the hospital.

TRACHEOTOMY—ONLY SOLUTION FOR PULMONARY PROBLEMS IN THE CRITICALLY ILL PATIENT

(R. W. Dickman & I. D. Baranofsky, Minneapolis, in *Jl. Laryng.*, Feb.)

We do not take the view that bronchial secretions must be tolerated in critically ill or unconscious patients and that patients must come to autopsy with "terminal pneumonia." For too long tracheotomy has been considered a procedure to be used only for an acutely obstructed airway. It should be placed in the armamentarium of the surgeon and internist to combat the complications which are often aids in causing the death of the patient rather than merely associated findings.

Our procedure of tracheotomy is simple. A longitudinal incision is made in the suprasternal notch. Bleeders, if any, are ligated. The thyroid gland is avoided, the incision is deepened to, and a small longitudinal incision is made in, the trachea. A No. 5 or No. 6 tracheotomy tube is inserted

and the deep tissue closed with interrupted 000 plain catgut and the skin closed with 0000 silk. A gauze pad moistened with sterile saline or water is placed over the entrance of the tracheotomy tube.

Fourteen critically ill patients are presented in which tracheotomy was performed other than for an acutely obstructed airway. It was hoped that airways obstructed with accumulated mucus could be kept cleared and "terminal pneumonia" prevented.

Seven of the cases were so critical that there was little or no hope held that they would recover.

All patients markedly improved following tracheotomy and of the seven cases in which death occurred from the original malady, none had retained secretions or "terminal pneumonia."

When a patient cannot raise and expel his intratracheal and bronchial secretions tracheotomy should be used.

It is preferable to employ tracheotomy before the need arises or at the earliest possible time following the onset of symptoms of retained secretions. It facilitates the care of the tracheal bronchial tree with the least amount of trauma to the larynx.

A sensible concept of—

ALCOHOLISM AS A SICKNESS

(L. E. Weisberg, Washington, in *Quarterly Jour. of Studies on Alcohol*, June)

Among the various interpretations which can be given to the definition of alcoholism as a sickness, the one which describes it as a malignant habit seems to be the most specific. As such, alcoholism ranks not only with other chemical addictions, such as morphinism, but also with sexual perversions and with "addictive eating." All these may occasionally substitute one for another. A feature which most addict personality types have in common seems to be a low threshold for frustration which can often be traced back to the influence of childhood environment. It is not specific for alcoholism or any any other form of addiction, but may lead to psychoneurosis psychosis, psychopathic personality or criminal behavior as well.

FOR HERPES ZOSTER

(Ciba Clinical Symposia)

Topical measures facilitate the involution of the lesions, lessen the discomfort and prevent secondary infection:

Rx	Menthol	1/4%
	Phenol	1/2%
	Neocalamine Lotion	q.s.
Rx		
	Menthol	1/4%
	Violform	3%
	Zinc Oxide Paste	q.s.

Commonly used systemic measures are aspirin-caffine-phenacetin combinations and codeine by mouth; surgical ptitritin, thiamine chloride IM; Na Iodide IV. In the neuroglia following zoster, x-ray treatment to the ganglion may do good. Injections of ACTH or administration of cortisone may alleviate the severe and refractory pains; benefit may be had from dihydroergotamine injections.

DEATH FROM BRONCHIAL ASTHMA DURING CORTISON THERAPY

(A. R. Ross and R. Zeldkoff, Cinci., in *Ohio Med. J.*, Sept.)

A case of intractable bronchial asthma is presented in which ACTH and cortisone were employed in an attempt at long term control of the disease. Sudden exacerbation of the asthmatic state occurred while on cortisone therapy with death within 48 hours. Postmortem examination revealed death to be due to bronchial asthma. The anatomic changes in the adrenal glands were not considered significant.

Simple Therapy About the Rectum

GROVER C. DALE, M.D., Goldsboro, North Carolina

WARTS must be treated gradually and carefully, avoiding excess of caustic. Use a sharpened wooden applicator for pinpoint application of nitric acid to two or three warts at each sitting. The patient should be warned of possible soreness. Podophyllin, 25 per cent in tincture benzoin compound, is equally satisfactory. One must observe the precautions of wiping away excesses and of applying talcum powder when the area is dry.

EXTERNAL THROMBOTIC PILES

Explain to the patient what is to be done and when he will feel pain. His confidence is important. Ask about sensitivity to novocaine. He will be helpful in lifting the opposite buttock. Touch the skin with carbolic acid before the initial skin injection. Use 1 to 2 per cent novocaine with adrenalin and inject directly into the pile. Wait five minutes and incise the length of the pile. If the incision is made at right angles to the normal skin grooves the wound will remain open better. If the pile collapses as the clot escapes, there is no need to traumatize the tissue in further search; if not, smaller encysted clots will be found and removed individually. Pack the wound with one corner of gauze dressing and put on a pressure bandage. A majority of patients require a narcotic for pain before they leave the office. Patient removes all dressings at first stool and follows up with hot sitz baths twice a day. He returns once or twice for separation of the skin edges.

POLYPS

If these are caught in the sphincter or can be delivered digitally, they can be put on gentle tension and ligated as high up as possible. The stump retracts and usually no further difficulties are to be expected. Certainly in children this procedure is the one of choice and is painless. The mother is relieved, too.

PRURITUS ANI

This is often a complex condition. In the aged, who show other evidences of vitamin deficiency, intravenous B complex is helpful. If a fungus is suspected, as is commonly noted following the antibiotics or by contamination from towels, the following non-irritating formula is useful:

Hydrg. bichloridi	Grs. I
Acidi borici	Oz. I
Resorcinolis	Oz. I
Pulv. zinci oxidi	Oz. II
Aq. lamameliidis	Oz. II
Aq. qd ad	Oz. VI

Sig: Apply locally b.i.d.

Stronger fungicides are rarely tolerated. Hot water is to be avoided. Allergic etiology is difficult

to arrive at. Often there are combined factors in pruritus ani: such as fungi, plus allergy; pin worms, plus fungi; fungi, plus neurosis. The doctor must be careful never to promise these patients too much. Eventually they wander away. Some recover by stopping all treatment.

SIMPLE PROLAPSE

This condition, usually seen in children and caused by straining at stool, is reduced gently with pressure of two fingers well lubricated, the child having been placed in the knee-chest position. The abdominal prone position is then assumed and adhesive straps are placed across the buttocks close to the anus, but not so close as to interfere with defecation. The mother is taught the technique of application. Great care should be taken that the rectum not be allowed to prolapse for several weeks. During this interval the child can be cured of its diarrhea and taught to avoid straining at stool.

FISSURE IN ANO

A chronic fissure with scar-formation is a broader surgical procedure. The painful, acute fissure requires slow deliberate approach. The mucous membrane is cautiously touched with $\frac{1}{2}$ per cent pontocaine. The applicator can gradually be introduced into the anal canal by carefully anaesthetizing as one proceeds. In this manner the pontocaine will reach the fissure itself. The sphincter will usually relax to permit 5-10 per cent silver nitrate. If spasm is great, 5 per cent mercurochrome is better and can be used frequently. Mineral oil by mouth and hot sitz baths are helpful. Persistent cases can be anesthetized by injection of Zylcaine deep into the perianal structures and waiting 30 minutes before treating the fissure.

Zylcaine, an oil solution of procaine, butesin and bezyl alcohol, gives anesthesia for several days. With experience in its use, many surgical procedures can be accomplished about the rectum with very little pain. An apprehensive patient may be given morphine 30 minutes prior to injection. After using 1 per cent procaine in the skin and a small amount under the skin, Zylcaine is injected from a point midway between the tip of the coccyx and the posterior commissure, fanning out on either side down to, and finally into, the sphincter. After 30 minutes the sphincter can be gently avulsed. Skin tabs may be removed, hypertrophied papillae excised, small mixed piles clamped, ligated and removed, fissures and cryptitis visualized and treated. In many instances there is a multiplicity of these local pathological conditions which should be handled by simply injecting Zylcaine as described. This

relieves sphincter spasm and the doctor is surprised at the end of a week to find a clinically well patient. The patient is first to learn and often will not return.

SIMPLE INTERNAL HEMORRHOIDS

If there is no great spasm of the sphincter, indicating other pathology, internal piles which easily retract into the rectum can be injected. A convenient solution is 5 per cent carbolic acid in cotton-seed oil put up by Columbus Pharmacal Company, of Columbus, Ohio. A tonsillar needle, tuberculin syringe and Brinckerhoff speculum are the essential instruments. With a good light the piles may be injected near the base but never distended beyond the degree which produces a pale-pink color. A pile usually requires 1 to 1½ c.c. and one or two are treated every four to seven days until satisfactory results are obtained. It is well to be guarded in making promises. The patient will stop coming when relieved. If he is charged a large flat fee he will keep coming, and after the doctor is tired of seeing him he will turn up to plague him again. A reasonable cash fee per treatment is more satisfactory and the patient will refer other sufferers.

SOMEWHAT ON SUICIDE AND CAPITAL PUNISHMENT

SUICIDE rates in England and Wales showed a marked decrease during the war; they are still below the 1938 figures. Of attempted suicides in persons aged under 50, the majority were women both before and after the war. Of persons who attempted suicide aged 50 and over and of those who committed suicide at any age, the majority were men. Nearly three-quarters of the women who attempted suicide were aged under 50.

The fact that suicides in Europe are more numerous in spring and summer has been known for over a century. Dahlgren cites Esquirol as having referred to this distribution in 1838, and his own figures for Malmo for the years 1933-40 were similarly distributed.

The figures suggest that unemployment among men, or the society of which it is a feature, probably influences the suicide rate among men considerably; unemployment among women probably has no significant effect on the suicide rate among women; nor does unemployment among men have any decisive influence on the suicide rate among women.

The highest incidence of suicide in England and Wales is from spring until about midsummer, and the seasonal distribution is similar in Australia.

1. Douglas Swinscow, in *Brit. Med. Jour.*, June 23d.

ANESTHETIC AGENTS ON THE LIVER

C. W. Fairlie et al., Boston, in *New Eng. Jour. of Med.*, April 26th)

A battery of liver-function tests was performed before anesthesia and on the first, third and fifth days after operation in 34 patients who underwent operations on the lower abdomen and legs. No patient had history or clinical evidence of liver or other systemic disease. None had a preoperative bromsulphalein retention of over 5%. An effort was made to eliminate all variables except the anesthetic agent by balancing the series for age, duration and types of operation and by avoiding shock, anoxia and malnutrition.

Abnormalities were present after operation in almost every case. The bromsulphalein retention, the most useful test, was elevated in 18 of the 34 cases at some point in the postoperative period, at times reaching 15 to 30% retention. There was a striking lack of correlation between duration of anesthesia and incidence of abnormal liver function.

It is concluded that there is no significant difference in ether, cyclopropane and spinal anesthesia in their effect on the normal human liver.

It is probable that the changes in liver function observed represent a part of the organism's total reaction to stress rather than a toxic effect of the anesthetic agent employed.

LEUKEMIA CAN BE PALLIATED, BUT NOT CURED

(E. B. Reed, M.D., Lincoln, in *Nebraska Med. Jl.*, June, 1951)

Effective therapy in leukemia comprises chiefly the use of drugs, blood transfusions, antibiotics and irradiation. These agents only palliate or arrest the disease. None is curative. Chemotherapy may well prove of benefit. The use of Fowler's solution is probably the oldest method of treatment of leukemia, and still has an important place. It may be tried in those cases in which there is not extensive hyperplasia of the leukopoietic tissues, and between courses of radiation therapy over long periods of time. It is well to remember that after arsenic has been given, or in fact any other maturation depressant, treatment with γ -ray has to be carried out with greater caution. The converse seems to be true in some instances; i.e., when irradiation seems to lose its effect, Fowler's solution may bring about a remission.

THE CLINICAL USE OF LEVOPHED, A NEW VASOPRESSOR SUBSTANCE

(Wm. A. Shafer, Bluefield, W. Va., in *W. Va. Med. Jl.*, July)

Levophed* is administered by placing 2-5 c.c. of a 1-5000 solution in 500 c.c. of 5% dextrose IV solution; or in the newer ampule, by using 1 c.c. of a 1-1000 sol. in each 1000 c.c. or 500 c.c. of IV sol. depending upon the rapidity of action desired.

Action as revealed in 50 cases: The rise in b. p. is rapid, depending upon the speed with which the solution is run, and there is a conspicuous lack of rebound phenomenon or over-elevation of pressure. Once the b. p. has been brought to a normal level its maintenance at that level is a simple matter of adjusting the rate of flow of the solution—usually 20-30 drops per minute. The b. p. shows a rise usually within 1 to 2 min. In five cases it was necessary to continue the use of Levophed in sol. after the patient had returned to his room. As the drug was withdrawn there was no sudden drop in pressure. The cases used for this paper include major neurosurgery, general abdominal operations and in chest surgery (six lobectomies); urological, gynecological and the E. E. N. T. surgery. The use of Levophed in cases of spinal anesthesia has been extremely efficacious and the results have been uniformly good.

*Supplied by The Department of Medical Research, Winthrop-Searle, Inc.

DYSPARAUNIA⁶

(Roland Bieren, Washington, in *Med. Ann. D. C.*, Nov., 1950)

DYSPARAUNIA in a minor degree is surprisingly common and in major degree not uncommon. Most women hesitate to bring up the subject. A simple inquiry addressed in a matter-of-fact way will usually uncover the topic. Once the patient knows that a sympathetic ear awaits, it is amazing how her problems will pour out. The physician who has learned the value of the kind word and sympathetic ear at the right moment will sometimes be startled to find out what is really wrong with a patient he has been treating for some time with little success.

DEPARTMENTS

HUMAN BEHAVIOUR

For this issue THOMAS F. COATES, Jr., M.D., *Editor*

Richmond

Member of the Staff of Westbrook Sanatorium

PSYCHOTHERAPY IN PATHOLOGICAL DRINKING

DR. STRECKER's¹ belief that pathological drinking is due to emotional immaturity dated in childhood leads him logically to the conclusion that the basic treatment should be psychological and reeducational—not pharmacological. He points out that the use of antabus may result in liver damage and that he has seen it produce severe psychotic reactions.

For successful treatment the patient must have some understanding of the need for help and some desire to obtain it. Patients who are forced to accept treatment are not good candidates for therapy, but some of these later develop sufficient understanding to be benefited. The patient must be willing to try to remain abstinent during treatment but he is not asked for promises or pledges, which are nearly always useless. When relapses occur they are discussed frankly, and when analyzed by patient and physician are very significant in the progress of therapy.

The basic treatment plan of Dr. Strecker consists of hourly consultation periods, frequent at first, but later one a week for about six months. The material discussed is largely at a conscious level, and in effect the patient relives his life verbally and comes to realize that his alcoholism is an adult escape mechanism, motivated by the emotional immaturity produced in childhood by parental dominance, which left him poorly equipped to deal with the problems of adult interpersonal relationships. He gradually comes to recognize his rationalized reasons for drinking as self-deceptions and in the course of treatment abandons them.

Also during the course of therapy the patient develops an understanding of why he wants to stop drinking—not for his little children, nor for his faithful wife—but for his own sake, for his own mental and physical survival.

Among the most important factors in therapy is the attitude of the therapist which should be "unemotional, impersonal, objective, not condoning, but still not critical or judging." This mature approach is in marked contrast to the average alcoholic's previous experience of being closely watched, and praised or punished for sobriety or drunkenness, as if he were a child.

The patient's most difficult obstacle to overcome

¹ L. A. Strecker, Philadelphia, in Oct. 27th issue *Jl. A. M. A.*

is his acceptance of a non-alcoholic future. This is essential to the successful treatment and must be done by the patient himself. He must adopt the irreversible conviction that he cannot drink. This means that the pathological drinker is never truly cured but remains well only as long as he takes no alcohol.

The importance of obtaining the coöperation of the family, the usefulness of job changes and the value of certain physical adjuncts, such as vitamin intake, etc., are discussed briefly.

Dr. Strecker's paper outlines a most sensible and useful plan for treating alcoholics who want to be helped. The factors he mentions are important and can be usefully employed by anyone who attempts to help these sick people.

SURGERY

WM. H. PRIOLEAU, M.D., *Editor*, Charleston, S. C.

COTTON SUTURE MATERIAL WITH SPECIAL REFERENCE TO COST

THAT SO many factors contributing to the high cost of medical care are beyond the control of the individual physician makes it all the more important that he exercise due care in those instances where he can effect an economy. The cost of suture material is one of the important items in operating-room expense. In part due to the effect of advertising, as well as to thoughtlessness on their own part, many surgeons insist upon using sutures prepared by a surgical supply house. In the case of catgut and certain special sutures, this means of supply is necessary. With cotton and silk the problem is quite different, as their preparation for surgical usage presents no technical difficulty.

In a series of well-controlled laboratory experiments and clinical observations, Steele and Glisson¹ made studies upon cotton thread obtained from various sources. These included:

1) Ethicon—prepared by Johnson & Johnson, New Brunswick, N. J., which retailed at \$44.50 to \$79.50 per 1,000 yds., according to the size.

2) Seaco surgical cotton sutures—manufactured by Seamans and Cobb Company, Hopkinton, Mass., which retailed at \$0.35 to \$1.45 per 1,000 yds.

3) Several varieties manufactured by the American Thread Company and J. & P. Coates Company, which retailed at \$0.31 to \$1.00, according to size and packaging.

The following conclusions were reached:

1) Some brands of inexpensive cotton thread are as satisfactory for use as surgical suture material as is expensive thread manufactured specifically for the purpose.

2) Some of the inexpensive threads compare favorably with the more expensive threads as regard-

diameter, cotton content, breaking point and tissue reaction.

The experience of the authors supported the conclusions drawn from statistical studies. In 1950, on one service, Ethicon cotton costing about \$2,000 was used, whereas the same quantity of inexpensive cotton thread could have been purchased for about \$20.

For the past ten years, the Editor of this Department has used for general surgical purposes, cotton thread prepared for the dry goods trade. It is used by preference for most purposes. A great advantage is that in tying a knot the first throw will not tend to slip. Two throws will form a knot sufficiently secure for most purposes. It is better tolerated by the tissues than is silk.

PEDIATRICS

GAYLE G. ARNOLD, M.D., *Editor*, Richmond, Va.

LARYNGEAL OBSTRUCTION

LARYNGEAL obstruction is one of the few urgent emergencies in medicine. Its recognition and treatment often require immediate action without opportunity for careful study of etiologic factors. The small size of the larynx of an infant or child is responsible for the fact that the greatest number of these emergencies occur in the early-age group.¹¹ Of all the emergencies seen in practice, this one is most alarming to the parents and to the attending physician. By laryngoscopic examination and the use of color motion pictures, a valuable study of this problem is now available.

Etiologic and pathologic processes that produce laryngeal obstruction in infants are:

1. Congenital anomalies:
 - a. Laryngeal webs, usually with associated dysphonia or aphonia
 - b. Cysts, usually with an associated dysphagia
 - c. Flaccid larynx, the most common cause of stridor, usually with increasing symptoms until 1 to 1½ years, then gradual subsidence
2. Paralyses, usually due to central hemorrhage, with death due to anoxia. This is frequently unrecognized due to the comatose condition of the infant.
3. Neoplasms, most frequently a papilloma, and very rare.
4. Inflammations:
 - a. Diphtheria—obstruction due to exudates and membranes.
 - b. Laryngeal-tracheo-bronchitis—obstructs by edema and exudates.

1. Holinger, P. H., and Johnston, K. C.: Factors Responsible for Laryngeal Obstruction in Infants. *J. A. M. A.*, Aug. 5th, 1950.

c. Acute epiglottitis—most frequently due to *H. influenzae* infections. The children typically are open-mouthed, drooling, and experience much pain on swallowing. This picture, along with signs of obstruction, should cause suspicion of epiglottitis, which may be the only reaction, or it may be a part of laryngeo-tracheo-bronchitis.

5. Trauma:

- a. Repeated attempts at laryngeal catheterization leads to edema.
- b. Foreign bodies—commonly in infants tacks and small safety pins. These cause edema or compression.
6. Cardiovascular anomalies pressing on the trachea.

The anatomic, physiologic, and pathologic factors of importance are:

(1) Size—the glottic chink of the larynx of the newborn is about 14 sq. mm., and edema of 1 mm. will reduce this area to 35% of the original area!

(2) Edema, above the glottis (as in *H. influenzae* infections) forces the epiglottis to curl inward and obstruct like a trap door. *Below* the glottis, the edema encroaches on the airway at its narrowest point. Since the glottis is surrounded by cricoid cartilage, edema here can only cause obstruction to the airway; it cannot expand laterally.

(3) Increased respiratory rate with consequent drying of the secretions.

In inspiratory obstruction, suprasternal and infrasternal retractions are deep, the chest is deflated, the percussion note *hyperresonant*, breath sounds are decreased, inspiratory phase is increased in length, diaphragms move fully, and lungs by x-ray are hyperaerated.

In generalized expiratory obstruction (obstructive emphysema), suprasternal and infrasternal retractions are shallow, chest is inflated, percussion *hyperresonant*, increased breath sounds and expiratory phase, diaphragmatic excursion poor, and emphysema is present by x-ray.

Laryngoscopic examination may be a most valuable diagnostic procedure, but should not be attempted unless surgical relief of the obstruction through aspiration, intubation, or tracheotomy is contemplated. Instrumentation may precipitate the necessity for surgical relief.

CONVINCING RESULTS OF WHOOPING-COUGH VACCINATION

CONTROLLED TRIALS were made¹ to assess the prophylactic value of pertussis vaccine in children. Those between the ages of 6 and 18 months whose parents consented to take part in the study were divided into two groups of equal size. Neither parents nor observers knew to which group a child had been allocated.

1. A Medical Research Council Investigation, reported in *British Med. J.*, June 30th.

Five batches of pertussis vaccine from three manufacturers were tested. Ten separate field trials were made in five different areas. In all, 7,558 children were inoculated and followed up—3,801 in the vaccinated and 3,757 in the unvaccinated group. Severe local or general reactions after inoculation were very few. None of the children had convulsions and in none did poliomyelitis develop within two months of inoculation.

149 vaccinated and 687 unvaccinated children developed pertussis. The corresponding attack rates per 1,000 child-months of observation were 1.45 and 6.72, giving a reduction in the incidence of the disease of 78%. Among children exposed to pertussis in their own homes the attack rates were 18.2% in the vaccinated and 87.3% in the unvaccinated groups. The cases that occurred in the vaccinated were on the average less severe and of shorter duration. During the 2- to 3-year periods of observation there was no evidence of a waning in the degree of protection afforded by the pertussis vaccines.

Each batch of vaccine gave substantial protection, but the two batches from one source gave a considerably greater protection than the other two

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

DIAGNOSTIC PITFALLS IN CARDIOLOGY¹

THE diagnosis of angina pectoris is not made by any type of physical or laboratory examination but only by what the patient tells you himself.

The two major types of heart disease in which the etiologic background is important are the rheumatic and the syphilitic, but it is not uncommon to be able to dig out a history of these infections only after discovering mitral stenosis or aortic regurgitation.

One of the commonest symptoms is shortness of breath. If you ask the patient if he puffs after exertion, his affirmative answer would favor real dyspnea.

It is always wise to approach a cardiac problem as if it were probably not one of heart disease. Other causes of shortness of breath are anemia, obesity, tobacco, primary pulmonary fibrosis and emphysema. If one asks a patient in no distress if he or she is short of breath, and the reply "terribly," means the deep, sighing respiration of anxiety. It may be that coramine by mouth helps this symptom, but patients of this sort are very suggestible and this may be the explanation.

A few comments on pain. The pain of angina pectoris and coronary occlusion may be confined to the

back of the chest. One should always think of the possibility of dissecting aortic aneurysm.

The shoulder-arm syndrome pain following myocardial infarction because the continuation of pain in the left shoulder and arm may be interpreted as a continuation of the destruction in the heart muscle. Reassurance and physiotherapeutic measures are very heartening to the patient.

Rarely gallstone pain is related to effort which squeezes these small stones into the cystic duct.

In young people, particularly after respiratory infections, the sudden onset of chest pain should always bring up the possibility of nonspecific pericarditis, the differential diagnosis of which is usually easy with serial ecgs. The prognosis has been uniformly good.

Other confusing causes of pain are hiatus hernia, esophageal ulcer, the scalenus anticus syndrome, superior pulmonary sulcus tumor, and spinal metastases. By far the commonest type of chest pain seen, except for angina pectoris, is due to radicular irritation. Such pain is usually over the precordium, may be very severe, and may be relieved or produced by change in position. It is often associated with tenderness in the region. The pain may be sharp or dull, transient, or persistent for hours. It responds to local heat and heat over the spine.

Collapse or syncope is often difficult to evaluate. One should try cautious carotid sinus stimulation in such patients to see if this may be the mechanism of the attack. A patient with paroxysmal tachycardia may be labeled neurotic if the attacks are short and he is not seen by a physician during one. Alvarez pointed out that minor cerebral attacks with collapse followed by persistent lowering of the b. p. are at times confused with coronary thrombosis.

Simple sinus tachycardia is, at times, difficult to explain. Anxiety, infection, anemia, drugs such as sedatives and thyroid, thyrotoxicosis and as a sequela of heat stroke may be cited as instances. It may, of course, be a sign of an active process in the myocardium or of an early stage of cardiac failure.

Cardiac enlargement is most common in cases of valvular disease or hypertension. But myxedema and hyperthyroidism, particularly in older individuals, arteriovenous aneurysms, anemia, vitamin deficiencies, and occasionally following virus infections and sensitization with sulfonamides may be the cause.

Organic heart disease may be both overdiagnosed and underdiagnosed by the x-ray.

For 30 years at our clinic at the Massachusetts General Hospital we have emphasized the necessity for listening to all hearts with both the open bell and the diaphragm type of stethoscope. The following areas should be explored: (1) the cardiac apex with the open-bell stethoscope lightly applied

1. Howard B. Sprague, M.D., Boston, in *Minn. Med.*, Sept.

with the patient in the left lateral position, (2) the left sternal border with the breath held by both the patient and the examiner, (3) over the back, (4) over the clavicles in children, (5) the axillary regions because of the possibility of picking up congenital arteriovenous shunts in the lungs.

Of the simple things the most commonly missed are:

Mitral stenosis with normal rhythm due to the failure to recognize the sharp character of the first sound. Often the diagnosis can be made by palpating the apex beat.

Mitral stenosis with auricular fibrillation in the terminal stages of congestive failure, cyanosis, and severe dyspnea. Such a patient is orthopneic with noisy breathing, and it is difficult to get the patient into the optimal position for auscultation and, therefore, no murmurs are heard. There is, however, right axis deviation in the ecg. and a first heart sound too good for this degree of heart failure. Very rarely this situation may turn out to be cor pulmonale, but it is far more commonly due to rheumatic heart disease with mitral stenosis.

Slight aortic regurgitation which can only be revealed by listening with the diaphragm stethoscope with the patient leaning forward at full expiration.

Aortic stenosis, because of a failure to note the quality of the murmur, the diminution of the 2d heart sound and, at times, the greater intensity of the murmur either at the apex or at the left sternal border rather than at the aortic area. Too much attention has been paid to the finding of a thrill in aortic stenosis. A thrill adds no more to the accuracy of diagnosis than proper attention to the auscultatory findings. In cardiac failure the sys. murmur may be faint, and then one must pay great attention to the marked diminution or disappearance of the aortic 2d sound as well as to the "groaning" of the murmur.

After a patient with myocardial infarction is ambulatory, mild exercise may be tried to bring out a latent gallop rhythm which is very important as indicating a poorly functioning myocardium. A patient with slight gallop rhythm and equivocal ecg. signs died six days later and showed infarction of the whole heart, with occlusion of all major coronary arteries.

The normal venous hum over the clavicles in children may be obliterated by pressure over the supraclavicular veins. It is important that differential diagnosis be made because of the practically routine indication nowadays for ligation of a patent ductus arteriosus. Congenital heart disease in general demands accurate diagnosis because of the great possibilities of cardiovascular surgery.

Make it a rule that every patient with auricular fibrillation be assumed to have rheumatic heart disease with mitral stenosis until proved otherwise. In

1944-49 we were able to study 115 patients with rheumatic heart disease in 1,025 autopsies of individuals dying of various diseases over the age of fifty, and rheumatic heart disease can exist at any age.

You may be called to see a patient whose heart is heard beating with two or three loud sounds, across the room. This is terrifying to patient and family, but, in my experience, has been due to a benign, spontaneous pneumothorax with air in contact with the pericardium. Recovery is made without therapy, except rest.

Pitfalls in electrocardiography concern largely abnormalities in the T wave and ST segments. In 1941, I listed some 40 conditions other than heart disease which altered the T waves. This list has been much increased. A few of the conditions recently observed to alter the electrocardiogram are eating, hypnosis, fright, acidosis, hyperventilation, hepatitis and spontaneous pneumothorax. This knowledge of the variability of the ecg. in normals gives one pause. The situations which it may be necessary to exclude before deciding that a given electrocardiogram means heart disease are almost endless. One should take only as many as may be necessary to confirm or deny a pathologic condition.

I would not ask you all to be electrocardiographers. In fact, I would pray that you would not be, but I do advise a spirit of skepticism because I have seen individuals not acceptable for life insurance when their electrocardiograms were recorded in the recumbent position who became eligible when they stood up, and we must always remember the neurogenic factors in this diagnostic method.

PUBLIC HEALTH

N. T. ENNETT, M.D., *Editor*, Beaufort, N. C.

MALARIA ERADICATED FROM OKLAHOMA!

THE EXPERIENCE of Oklahoma in bringing about the practically complete, if not the complete, disappearance of indigenous malaria within its bounds, as reported by that State's health officer,¹ is worthy of careful consideration.

In the early 1940s, an authoritative statement was made that it was possible to eradicate malaria in the United States. A plan was formed which placed great reliance, first, on killing adult anophelines in human habitations by means of residual spray insecticides, and, second, on better diagnosis and treatment of cases of malaria.

A residual spray program was initiated by the State Health Department in coöperation with the U. S. P. H. S. in 1945 and carried out with great zeal through 1950, in 15 malarial counties in the state in houses and other buildings where the an-

¹ G. F. Mathews, M.D., Oklahoma City, in *Jl. Okla. Med. Assoc.*, Sept.

pheles might be found and where people might live or stay for periods of time. Spraying consists of applying an emulsion to all interior wall surfaces, porches, privies and some other buildings, so that there is 200 mg. DDT per sq. foot after the spray dries. Two treatments per year were carried out when possible; one spraying was highly effective. A large percentage of the population was using household spray guns and searching for and killing mosquitoes of any type.

In 1948 and 1949, the spraying crews were treating 90% of the number of houses sprayed in 1945. Local participation furnished 90% of the man hours.

Reported Cases of Malaria in Oklahoma—1945, 46.2; 1950, 3.7 per 100,000 population. Figures exclude cases known to have been contracted outside the United States.

Routine Diagnostic Blood Smears for Malaria: % positive—1945, 5.5; 1950, 0.8.

The State Department of Health has decided to offer \$5.00 for each case of primary malaria confirmed by a blood-film examination made by the State Laboratory, or the physician in charge of the case may send the slides to the Laboratory of Parasitology at the University Medical School. The Health Department is to investigate each case found and attempt to bring about control measures in all such communities. The immediate locality where the disease was contracted will receive residual spray.

It would seem that Oklahoma is in the unique position of being one of the first malarious areas in the world to be able to state that the indigenous disease has disappeared.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS YOST, M.D., *Editor*, Orangeburg, S. C.

ELECTROCOMA, AN EFFECTIVE THERAPY IN MANY MENTAL DISORDERS

SINCE the advent of electrocoma therapy in the late 30s, numerous modifications in the technique, the indications, the dosage of current, and of the mechanical apparatus itself have come about. ECT is considered in the treatment of psychoses with depressive features almost as specific as is quinine in malaria. It does much to subdue and banish the intensity of the manic stage of manic-depressive disease combined with psychotherapy and insulin, it is of great value in treating schizophrenia. Combined with psychotherapy, it is very effective in some types of psychoneuroses. ECT has proved of value, not in curing the epileptic or warding off his attacks but by banishing his dejection, his homicidal and suicidal tendencies and thus improving

his general condition.

ECT can be administered to cardiac patients in the seventh or even eighth decade. When the issue is whether the risks of a treatment must be balanced against the chance of a happier, saner existence. In patients who have suffered three coronary occlusions in the seventh decade I have successfully employed ECT. Many, including myself, have used ECT as an adjuvant to the routine malaria and penicillin in treating general paresis. Certain cases of active tuberculosis and of acute chronic alcoholism have reacted favorably.

As a rule, victim of involutional melancholia, if he has not experienced a previous mental illness, can be cured by six to 10 treatments of ECT. Many cases of this kind, left untreated, will recover; others will develop a chronic form of the malady.

Pregnancy in the manic depressive or schizophrenic is no bar to treatment with ECT, for it is known that these conditions are harmful to both the mother and the unborn child; postponing treatment might result in incurable psychosis. Generally speaking, the health and maturing of the unborn child are not interfered with.

The patient under ECT loses consciousness immediately and upon awakening (aver. in 15 m.) does not know he has had a treatment.

An ECT-induced convulsion, though every precaution be taken, may cause fracture of the jaw, a thoracic vertebrae, or the humerus, the contractions of the muscles are so powerful. ECT is contraindicated in hypertension, exophthalmic goiter, acute infections, peptic ulcers and thrombophlebitis, as well as aneurysm of the aorta. Amnesia lasting for weeks or months may follow the treatment—may enable the patient to put aside the worries, feelings of guilt, etc.

What actually takes place in the brain when ECT is given remains an enigma. Of the theories advanced, that of the distinguished Meduna postulates that any convulsive shock tends to alter endocrine function and carbohydrate metabolism.

A CARBOHYDRATE-PHOSPHORIC ACID SOLUTION IN THE MANAGEMENT OF VOMITING

J. E. Bradley, M.D., et al., Baltimore, in *Jl. Pediatrics*, Jan. 9

For the past 18 months, we have been working with a clinically satisfactory carbohydrate solution* made with invert sugars and phosphoric acid and stabilized at an optimally adjusted pH. Also, the preparation was distributed among a number of pediatricians, who were asked to give it in 5 c.c. dose, undiluted, at intervals of 15 min. for a total of four doses. In some older children, or in those who had been vomiting for a long period, the dose was increased to 10 to 15 c.c., at the same interval.

Clinical trial of the oral preparation was made in 245 cases of nausea, vomiting, or regurgitation in infants and

*The product used was Emetrol, furnished through the courtesy of Kinney & Company, Columbus, Ind. Emetrol is a solution of invert sugars (57% total solids) and orthophosphoric acid with suitable stabilizers and flavors.

children.

Cessation of vomiting occurred in all of 172 cases of epidemic vomiting.

Of 43 infants with regurgitation, 29 responded favorably; these cases had previously failed to respond to atropine, phenobarbital, or other preparations. 15 of 17 patients with toxic vomiting responded favorably.

Motion sickness was prevented in all of 11 children regularly subject to nausea when traveling in vehicles.

HISTORIC MEDICINE

NOTES ON THE HISTORY OF THE ARMY MEDICAL DEPARTMENT

A QUEEN CITY* SURGEON, a graduate of the Medical College of Virginia,¹ has been at great pains to collect a wealth of material on the Army Medical Department. His instructive and entertaining report is abstracted freely.

During the first century of our national history the medical officer, along with the chaplain and quartermaster, was a civilian serving with troops and not held in high regard by the line, though his social position was good.

On George Washington being appointed Commander-in-Chief of the Continental Armies in May, 1775, he immediately requested of Congress the establishment of a General Hospital in Cambridge, and organized the Medical Department. Dr. Benjamin Church, of Boston, was appointed Director General, with pay of \$4.00 per day and four assistants, each of whom drew \$1 1/3 per day. The purpose of the General Hospital was to care for those too sick to be cared for by regimental surgeons. The Director General had no authority over regimental care.

Church was convicted of treason on October 5th, 1775, and imprisoned. He was subsequently released because of ill health, and left Boston in disgrace on a ship that was never heard from again.

Dr. John Morgan, of Philadelphia, principal in the organization of the Medical School there ten years before, succeeded to the post of Director General. He reorganized the hospital system, smoothed the differences with the regimental surgeons, and was particularly efficient in procuring supplies. One of his subordinates, Dr. Stringer, of Buffalo, who was in charge of the hospital of the Northern department, was profoundly jealous of Morgan and the controversy which arose led to the dismissal of both. Morgan was later exonerated.

Dr. William Shippen, who then became Director General, almost immediately came under attack by Dr. Benj. Rush, and was ultimately tried for malpractice on charges brought by Rush; though acquitted, Shippen resigned in 1781, immediately

*Cincinnati has been generally known as the Queen City for at least 135 years.—J. M. N.

after trial. Rush also resigned disgruntled over the court's decision.

Benjamin Rush was the foremost American medical figure of his day. One historian describes him as follows: "Benj. Rush, by virtue of his social and professional prominence, his position as a teacher, and his facile pen, had more influence on American medicine and was more potent in the propagation and long perpetration of medical errors than any other man of his day. To him more than to any other man was due the great vogue of vomits, purging, bleeding, blistering and salivation that blackened the record of American medicine till almost the time of the Civil War."

Dr. John Cochran succeeded Shippen and served with credit until the army was mustered out in 1783. The order which ended the army and the medical department for a time retained 25 privates to guard the stores at Fort Pitt, and 55 to guard the stores at West Point.

Congress recognized the important morale factor of medical care and wrote into regulations that nothing gained a commander the love and loyalty of his men more than his care during illness. Medicine contributed little else. Many commanders recognized that infection was greater in hospitals than in homes and refused to have the sick and wounded admitted.

Of four Director Generals, one was convicted, one was discharged, and a third was tried for malpractice. There were 200 physicians with degrees in America at that time; there were 3,500 practicing; 1200 of these served in the armed forces.

A note of interest in *Thacker's Military Journal* on a case treated in the hospital at Albany: "Captain Gregg was a frightful spectacle: the whole of his scalp was removed; in two places on the fore part of his head the tomahawk had penetrated his skull: there was a wound through his back with the same instrument, and another in his side and arm from a musket ball. This officer finally recovered and appeared to be well satisfied in having his scalp restored though it was entirely uncovered with hair."

From 1783 until 1792 there was no organized Medical Department. During this period there were many engagements with Indians, but by State Militia, and, as before, medical care was procured locally by the commanding officers. In 1792 Congress created a legion of several thousand men and appointed Dr. Richard Allison as Surgeon to the legion, but there is little record of service by this group and the legion was discharged one year later.

In 1798 war with France threatened and Congress authorized an army of 10,000 men with the staff to include a Physician General with relative rank of Lieutenant Colonel. The threat of war was quickly over, the army was disbanded, and the post of Physician General abolished in 1800. Dr. James

Craik* had occupied the post.

The period from 1800 to 1812 is almost without medical note except in regard to the troops about New Orleans where the death rate from typhoid, malaria, etc., was terrific and of medical care there was none. If the men recovered it was by strength of constitution.

During the first year of the War of 1812 there was no head to the Medical Department. Dr. James Mann, who was medical director of the Army of the Northern department, prepared a Medical Journal of the war, and from this most information of the period is gained. Mann wrote: "Bleeding is the best treatment for wounds of the viscera provided life is not extinguished when the bleeding is stopped."

Dr. William Beaumont, to gain fame from observations on "fistulous Alexis" St. Martin, writes of the aftermath of a battle Sept. 27th, 1812: "A most distressing scene ensued at the hospital. Only the groans of the wounded and the agonies of the dying were to be heard; the surgeons wading in blood cutting off arms and legs and trepanning heads to rescue their fellow creatures from untimely deaths. I cut and slashed for 48 hours without food or sleep."

In March, 1813, Congress authorized the appointment of a Physician and Surgeon General. Dr. James Tilton, for whom Tilton General Hospital, Fort Dix, is named, was given the post.

He quickly dropped the word "physician" from his title and became The Surgeon General. Since then medical officers have been called surgeons regardless of their specialty. Medical officers given a uniform for the first time—black with a very high collar.

In 1818 Dr. Joseph Lovel, of Delaware, became Surgeon General, and since then the Medical Department has had an unbroken history. Lovel encouraged his subordinates to engage in medical research. It was he who made it possible for Beaumont to continue his studies on Alexis St. Martin. He founded the Library of the Surgeon General's Office. Medical officers were not very busy and Lovel required of them regular meteorological reports—a duty that was to remain theirs until 1885, when the Weather Bureau was created.

Dr. Thomas Lawson succeeded Lovel at his death in 1836, and accepted with the proviso that he be allowed to continue as leader of two battalions of troops he was then training for the Seminole War. This was granted and Lawson did not take his new office until 1838.

Lawson was anxious for military status for all medical officers, and in response to an order which denied them epaulettes, after reciting his own military record, he wrote to The Commanding Gen-

eral: "If under these circumstances The Commanding General can feel himself justified in putting me off with an aiguillette—a piece of tinsel for one shoulder—while he decorates every Brevet 2nd Lieutenant with epaulettes for both shoulders, and Staff Lieutenants with aiguillettes as well, I must be content to remain without military dress." The epaulettes were quickly provided and soon medical officers were given definite military rank for the first time, with uniforms identical with the line except that the sash of the dress uniform was green, the corps color.

Lawson, not a great student himself, saw the need of study by his men and enlarged the Library of the Surgeon General's Office, and began Refresher Courses. At his direction in 1851, the first medical officer attended the American Medical Association as a delegate. Under Lawson the Medical Department grew despite a disgraceful showing in the Mexican War 1847-48.

On Lawson's retirement in 1861 he was succeeded by Dr. Clement Finley, who proved unfit, and, after one year, was replaced by Dr. William A. Hammond, 32 years old, in the grade of Brigadier General. He was a brilliant, vigorous man, who had already done much writing on medical subjects. He was a close friend of Weir Mitchell, and the two had written several papers together. He was held in highest regard by the medical profession, and the profession rallied behind him during the period of expansion. Hammond was removed from office in 1864 after an altercation with the Secretary of War. He was later exonerated and recommended for retirement on pay as a Brigadier General. He refused the pay and continued as a prominent practitioner in Washington until his death in 1900. He was greatly opposed to the use of purges, bleeding, etc., and his first act was to remove calomel and tartar emetic from the Standard Supply Table. He also banned hip amputations on the basis of a mortality of 100 per cent.

Hammond's most important act was the appointment of Jonathan Letterman as Medical Director of the Army of the Potomac with instructions to arrange for the evacuation and care of the wounded. Prior to this it was customary to permit friends and relatives to go on the field after the battle and find their loved ones as they could.

The Letterman Plan, consisting of field aid stations, litter bearers, ambulances, evacuation hospitals, hospital trains, and general hospitals, was first tried at Antietam and worked so well that it was placed in operation for the entire army. Letterman resigned in protest over the treatment of Hammond, gave up medicine and tried a business venture in California which failed, and he began practice in San Francisco which continued until his death.

*Physician to Washington in his last illness.

Brigadier General Joseph Barnes was appointed to succeed Hammond and was successful in instituting many of the things which Hammond had proposed but failed to accomplish. General Barnes was retired in 1882. Dr. Charles Crane, the senior Colonel, appointed to succeed Barnes died in office two years later.

Brigadier General Robert Murray was the next Surgeon General. His reports are the first to comment upon antisepsis. Lister's principles had been applied in the army before, as shown by certain scientific reports, but this is the first official record. Murray was retired in 1886.

John Moor, senior Colonel, Murray's successor, served for four years, which has been the customary tour of duty since for the Surgeon General, though several have been reappointed. Moor's administration saw the final establishment of the Hospital Corps, and the Army-Navy Hospital at Little Rock, Arkansas, the first permanent General Hospital.

The next Surgeon General was Brigadier General Jedidiah Baxter, whose service of four months was terminated by death. Brigadier General Charles Southerland was his successor, and served three years when he requested retirement.

In 1893, Brigadier General George M. Sternberg, a noted bacteriologist, the discoverer of the pneumococcus, succeeded Southerland. Among the brilliant men in the Medical Department were Walter Reed and William C. Gorgas. It remained for Sternberg to recognize them, train them, and assign them to tasks, the accomplishment of which was to win fame for each of them.

Sternberg established the Army Medical School in Washington. The first faculty included Major John S. Billings, professor of military hygiene, Captain Walter Reed, professor of clinical and sanitary microscopy and director of pathological laboratory, and Dr. W. W. Keen, who gave one lecture on head surgery.

Part II to be abstracted in a later issue.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

CHOICE OF MEANS OF TREATMENT FOR GASTRIC AND DUODENAL ULCERS

MEMBERS of the Staff of a great clinic present clearly the pros and cons of medical versus surgical management of peptic ulcers.¹

It is recognized that 5 to 10% of the *gastric* ulcers diagnosed by x-rays as benign prove to be malignant on microscopic examination. The same percentage of *gastric* ulcers on which operation is

¹. *Proceedings Staff Meetings of the Mayo Clinic*, Sept. 27th, 1950.

not performed subsequently prove to be malignant. The contrast between these percentages (5 to 10%) and the hospital mortality rates for partial gastrectomy in cases of gastric ulcers (1 to 2%) leaves no doubt that the risk of malignancy is greater than the risk of surgical treatment in surgically acceptable cases.

The choice of medical or surgical therapy of the small ulcerating *gastric* lesion is influenced not only by the fact that in general the risk of surgical treatment is less than the risk of malignancy, but also by the relative chances of malignancy in the individual case. Thus, immediate surgical intervention may well be the treatment of choice when those features are present in the individual case which experience has taught increase the chance of malignancy or render medical management difficult. The chances of malignancy in the *gastric* ulcer roentgenologically diagnosed as benign are greater the older the patient, the larger the ulcer and the lower the concentration of free acid, and medical therapy is less likely to be successful when the ulcer has produced obstruction or fibrosis and deformity, or is large and penetrating.

On the contrary, in the case in which the chance of malignancy is very low, after careful appraisal the patient is informed on the one hand of the risk of surgery and duration of hospitalization and of convalescence following surgical treatment and on the other hand of the duration of medical therapy, of the possibility that surgical treatment will be advised if healing is not prompt, and when healing is apparently prompt and complete, of the long period of observation, with x-ray examination at stated intervals, necessary for the patient's protection. Medical therapy is then undertaken only when the patient determines that he is willing and able to pursue medical therapy to its final conclusion. Medical therapy is pursued in the hospital beyond two to four weeks only if the ulcer shows a tendency to rapid and complete healing. The lesion should remain healed for months before the patient finally is dismissed. When presented with these facts the patient often chooses immediate surgical treatment because it is rapidly definitive and carries a risk less than that of malignancy and a morbidity of short duration.

That 60% of *gastric* ulcers are treated surgically reflects the fact that medical therapy is advised in the cases in which experience has taught that the risk of malignancy is low and the chance of healing relatively good or in the cases in which the risk of surgical treatment is increased.

Medical management of *duodenal* ulcer, properly conceived, supervised and followed, controls its activity with a degree of success satisfactory to the great majority of patients. When the ulcer becomes intractable, multiple hemorrhages occur, ob-

struction develops, or perforation ensues, surgical treatment carrying a risk of 1% and promising results satisfactory to more than 90% of the patients may be chosen with every confidence that the best interest of the patient is being served.

EARLY DIAGNOSIS AND TREATMENT OF CANCER OF THE LUNG

PRIMARY lung cancer is the most detectable of any internal tumor; it is accessible for excision; and it is frequent enough to invite general familiarity and awareness. It exists in a silent stage for months even for years before it becomes clinically evident. In this phase it is visible on chest x-ray films as a shadow, usually small and usually rounded if peripherally located. More centrally-placed tumors soon occlude a bronchus and produce varying densities of segmental atelectasis.

We have explored 67 patients with tumors revealed in surveys; 60% of these were malignant. Others report 74% of a series of 53 silent lesions malignant; another a 40 per cent incidence of cancer in 104 cases of silent-tumor suspects who were explored.

Cancer of the lung, with efficient use of x-ray facilities, should be as easily detected as superficial cancers such as those of the skin and mouth. The lung is radiolucent; hence no contrast medium other than alveolar air is needed to demonstrate any solid abnormality in it.

Surveys are being made for tuberculosis case finding. All normal chest films are thereby cleared. The expense of cancer detection lies only in the rescreening of the abnormal shadows.

Surgical exploration is the surest, safest method of establishing the diagnosis. When cancer of the lung is treated promptly after discovery in its silent form, the majority of the lesions are still localized and favorable for cure.

1. R. H. Overholz and F. M. Woods, Brookline, Mass., in *New England Jl. of Med.*, Oct. 11th.

UROLOGY

THE CHOICE OF REMEDIES IN THE TREATMENT OF INFECTIONS OF THE URINARY TRACT

THE CONFUSION of many of us resulting from the conflicting claims made for the various remedies offered is much cleared up by the clear-cut statements of two St. Louis urologists.¹

A gram stain of the centrifuged urine made in the office will distinguish between a coccus and a bacillus. Penicillin can then be prescribed for the coccus, mandelamine or gantrisin if it is a bacillus. Should this therapy not clear the infection in two or three days urine is collected for culture—a

1. G. Carroll & R. V. Brennan, St. Louis, in *Jl. Florida Med. Assn.*, Oct.

catheter specimen in the female; in the male passed in a test tube.

The nine most common organisms in infected urine in order of frequency are:

Escherichia coli, 26%; Pseudomonas aeruginosa, 15; aerobacter aerogenes, 14; proteus vulgaris, 13; escherichia intermediate, 9; staphylococcus, 9; streptococcus fecalis, 6; paracolon, 4; alcaligenes fecalis, 4.

The seven drugs most used to combat these infections are arsphenamine, mandelamine, streptomycin, aureomycin, chloromycetin, gantrisin and terramycin.

E. coli is controlled, in most instances, by any of the drugs.

Ps. aeruginosa is the most resistant. There is no nontoxic antibiotic that will always inhibit it. Certain strains are controlled by streptomycin, aureomycin and terramycin. Mandelamine is effective when the urine can be rendered acid.

Aer. aerogenes is more susceptible to aureomycin and terramycin.

Proteus is resistant. Practically all its strains split the urea in the urine into NH₄OH and CO₂, thus alkalinizing the urine. Chloromycetin and gantrisin are most effective in the treatment.

Es. intermediate is resistant to streptomycin and to gantrisin, but highly susceptible to aureomycin or chloromycetin.

Staphy. is best met by penicillin; aureomycin and chloromycetin are effective to a high degree.

Strep. fecalis is controlled by aureomycin and chloromycetin; highly susceptible to mandelamine; paracolon and al. fecalis by aureomycin and terramycin.

A FOLLOW-UP OF 48 MARRIED STERILIZED WOMEN IN NORTH CAROLINA

Moya Woodside, New York City
(From the Institute for Research in Social Science, University of North Carolina)

A group of 48 married sterilized women was interviewed as to sexual and psychological adjustment following operation. Indications for sterilization were medical, and the procedure, either tubal ligation or bilateral salpingectomy, was undertaken postpartum in over one-half of the cases.

Reporting on an average 14 months later, general health better in 24, the same in 21, and worse in three. Menstruation was unchanged in 28, improved in five and altered or worse in 15. Intercourse, for most twice a week, became more frequent in four cases; libido increased in six and decreased in eight; orgasm capacity was unaffected in 35, improved in eight and showed a decrease in five.

Relatively little outward change occurred in sexual life. The effect of operation could not be isolated from other factors of health, personality and marital happiness. It was in the psychological sphere that the greatest difference had been wrought through removal of fear of pregnancy. Freed from recurrent anxiety, sexual and marital relationships were felt to be improved, and women, individually, were much happier. The physical relief from constant childbearing was of equal importance.

In the few patients in whom unfavorable results were observed, they were associated with neurotic personality and maladjustment in the life situation.

Sterilization had conferred great practical and psychological advantage on the group as a whole and could have been more helpful if undertaken earlier in a number of cases.

ORTHOPEDIC SURGERY

AUSTIN T. MOORE, M.D., *Editor*, Columbia, S. C.

PROBLEMS OF MEDICAL CARE IN POLIOMYELITIS

A NEW YORK DOCTOR,¹ is one of the great number who are writing and speaking against the mania for sending patients to hospitals, who would be better off in their own beds, and keeping others in hospital longer than reason justifies. He realizes that one perplexing question for the solution of which we must turn to the practicing physician caring for poliomyelitis patients is the problem of overhospitalization, and he goes into detail.

Hospitalization in any case to control spread is futile. By the time a case is suspected or recognized, the remaining members of the family and others are excreting polio virus, most of them having silent infections. Therein also lies the futility of quarantine. In many cases diagnosis and care can be given in the home with the aid of a consultant *if needed*. Spinal taps are not usually required for diagnosis.

Hospitals should admit only those patients for whom close observation or care is needed.

The trend has been to admit the great majority to hospitals for diagnosis as well as for care, often to the disadvantage of the patient, the hospital, and the agency rendering assistance. The National Foundation has wound up each of the last three years in debt to the next March of Dimes for hospital bills. Almost five million dollars of this year's funds have gone to pay last year's bills, and unless we have an unexpectedly light epidemic year, we shall run out of funds long before the job is done this year.

There are a number of disadvantages to hospital care; the psychic trauma of separation from family and home security and isolation in a strange place, the less adequate attention to patient comfort and ordinary needs in most hospitals; and transportation of the patient with acute poliomyelitis is a hazard.

Another big problem is that of unnecessarily prolonged hospitalization. Shortening of hospital stay of nonparalytic patients and those with minor involvement, which is better in half the cases, would effect a great economy of hospital space and personnel and funds for useful purposes.

1. K. S. Landauer, New York, in *J. Florida Med. Assn.*, Oct.

RATS

² From *The Alkaloidal Clinic*, published and edited by W. C. Abbott, M.D., July and August issues, 1901)

The Japanese proposal that the world, by concerted action, shall rid itself of rats, is worth consideration. The

amount of damage and annoyance endured from these pests is enormous. Add mice, flies, roaches, mosquitos, fleas, et al. . . .

The uselessness of such attempt by a single household is apparent, but if universally done it would accomplish its object. That anything like such concerted action can be effected is unlikely. Let it be advocated in earnest and we would have a dozen new editions of the Anti-vivisectors and the Antivaccinationists. The Anti-Rat-exterminators, the Anti-Fly-catchers, the Anti-Roach-banners, and their friends, would rise up in the might of Individual Freemen, and proceed to enlighten the world on the immeasurable benefits conferred by the bedbug, the louse and the chigger. Already we have been told that most of the maladies of adult man are due to the destruction of the itch-pest by our boyhood's applications of sulphur. . . .

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

WHAT DO WE MEAN BY LOWERING STANDARDS?

IF ONE discusses education in any field, the leaders will soon advance the theory that the reason for all of their shortcomings, even if they do not admit them, is that they do not want to lower standards. The writer has heard this not only in the field of medicine, dentistry and the nursing educational program, but in the liberal arts courses as well. But he has been unable to get a statement of what they mean by lowering standards.

All will admit that educators are sincere in their beliefs; the question is only as to their practicality. They insist that certain students should have added to their already overloaded curriculum some additional work, because they believe it better prepares the student to successfully meet the problems of life. To substantiate this they offer no evidence. Therefore, it is an experiment, rather the first half of an experiment. The second half—following the student out into life after graduation and coming face-to-face with life's problems in the business, professional and moral world—seems not to be though of as consequential. The author of this article hopes that someone reading this article will grasp a meaning of "standards" different from that given by the word by the educator.

The word standard means uniform, the same, whether it be size, shape, color or consistency. A standard baseball means one made of a recognized type of material, covered with a certain type of leather, with a certain firmness and weight. A manufacturer can produce a million baseballs all meeting the same standard. A standard key may unlock a thousand different locks but if it does, the latches in the lock must fall repeatedly in the same grooves in the key. There must be a standard lock and a standard key to go together. Human beings are far more complex than mere things, which makes standardization impossible, even if it were desirable. No two babies are born with exactly

the same potentialities for thought, action or deed. No two mature individuals will be exactly alike in any characteristic. Even identical twins are not standardized. One will love music, while the other may enjoy physical sports. It is obviously impractical, therefore, to speak of the development of men's minds in the terms of standardization. A mind may meet a certain standard one day and the next day be totally inadequate to perform the same mental process. You cannot standardize thinking.

Among the sociologists there is a common explanation of "clarification," meaning that a certain position taken by one or more individuals in the same field of thought, needs considerable explanation in order that others may know what they are talking about. The yardstick used to "standardize" a human kind is misleading and is in my judgment responsible for the downfall and failure of the present-day educational system.

It is most unfortunate that it ever became necessary to establish rigid grades in any school. One first grader may finish his job in three months and be ready for the second grade work, whereas, another may take two years to be ready for the work outlined in the second grade. It being impractical to have a teacher for each individual student, it became necessary to classify minds and the educators have confused the issue by attempting to standardize human thinking.

The highest quality of education is that type of experience led and taught by practical thinking on the part of the leaders. No one would attempt to teach the multiplication table in the same period that he is attempting to teach spelling. Yet it is impractical to expect every pupil to become a certified public accountant, while at the same time he becomes an expert in spelling the English language.

In summary: education cannot be standardized because it is an experience of the human mind and no two minds can be standardized in experience. There is an erroneous thought abroad among the leaders in the educational world that specialization, taught and directed by a rigid system of standardization, makes for education. How can anyone who has not had the practical experience of performing certain deeds become by standardization qualified to teach someone else the thing that he himself has never experienced at first hand. Let the barber that shaves the face teach the young barber the trade; let the plumber who tightens the nuts on the water pipe teach the young plumber how to do it; let the preach, the doctor, the lawyer in practice have a larger part in teaching the inexperienced, in their field, how to make a success when they themselves come face to face with every-day problems.

ALTHOUGH DIARRHEA is not common in appendicitis, we must be on the watch for acute appendicitis developing in the course of acute enteritis, especially in children.—Leven.

ECONOMICAL METHODS OF INDUCING BOWEL MOVEMENTS

(H. E. Ayers and M. L. Stone, New York, in *Medical Times*)

A clinical study was undertaken to determine efficacy of rectal suppositories in the treatment of postpartum hemorrhoids. The suppositories containing benzocaine 120 mg., ephedrine hydrochloride 4 mg., oxyquinoline sulfate 15 mg., bismuth subgallate 60 mg., balsam Peru 60 mg., and cocoa butter q.s.

In all, 320 cases were treated with the suppositories and 325 cases were given the enema. Of the 320 cases treated with suppositories, 299 responded favorably, while 21 required additional means to induce defecation. Of the 328 cases in which the enema was employed, 304 responded; 24 required the use of supplementary measures. Therefore, the use of suppositories represented a saving of 18 minutes of the nurse's time which was employed in other duties.

The patients to whom the suppositories were administered stated that they felt comfortable during their movement, and preferred it to the usual enema.

Not only is the rectal suppository useful in postpartum hemorrhoids, but it should be given routinely in normal cases to save the time of nurses on obstetrical service. The cocoa butter suppository should be employed rather than the glycerin suppository, since the former is bland and causes a gentle reaction, whereas the latter causes irritation and a possible violent movement, which may be harmful to the patient.

A series of 79 cases of postpartum hemorrhoids was treated in the obstetrical ward. Of these, 16 were chronic (existing prior to pregnancy), 41 were acquired during pregnancy and 22 were acute cases (onset during delivery). All cases were treated with these suppositories. Only 3 of the subacute cases and 6 of the chronic cases did not respond.

During the course of the study, the use of these suppositories to induce the first postpartum bowel movement in normal patients was considered, in contrast to the usual procedure of administering an enema. 320 cases were treated with the suppository and 328 cases were given the customary enema. 299 of the 320 cases treated with suppositories responded favorably, while 21 required additional means to induce bowel movement. Of the 328 cases in which the enema was employed, 304 responded satisfactorily.

The material used in this study was Rectal Medicone, supplied by the Medicone Company, New York.

BLOOD GROUPS AND DISPUTED PATERNITY

(Gilbert Forbes, in *British Med. Jl.*, July 28th)

The putative father in a case of disputed paternity naturally wants to know what his chances of exclusion are if he is innocent and submits to the tests. Paternity can never be absolutely proved by blood grouping. If the groups of the parties are such that the putative father could be the father of the child in question, the tests are inconclusive and should not be regarded as incriminating the man. He, or any other man of the same blood type, might be the father. If, however, the child has in its blood an antigen which could not possibly have been inherited from either the mother or the putative father, then paternity can be definitely excluded.

THE UNITED STATES PUBLIC HEALTH SERVICE issues a book, "Immunization Information for Persons Proceeding Abroad," which gives the requirements for immunization in the various countries.

—JL. Am. Med. Women's Assn.

DIVULGATION OF THE LARGE INTESTINE IS PRESENT IN 25%-30% OF ALL ADULTS. The sigmoid is the segment of predilection for this condition; 25% of all the colon cancers occur in the sigmoid.

—J. J. Morton, Rochester, N. Y., in *R. J. Med. Jl.*, July.

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THE CLINICAL ASPECTS OF PRIMARY CARCINOMA OF THE LUNG

THE DEATH of Charlotte's Dr. Oren Moore from cancer of the lung will add to the interest of doctors in this disease condition. The account given by two Philadelphia doctors¹ will post every practitioner on the necessity for, and the means of, keeping an intelligent lookout for it, and detecting it at the earliest possible moment.

Early carcinoma of the lung may be symptomless. Later there are no pathognomonic symptoms, the symptoms being those which are common to other pulmonary conditions. The significance of symptoms may not be appreciated until months have elapsed and then only when x-ray and other studies reveal the true nature of the ailment. Cough, wheeze, hemoptysis, pain, loss of weight, dyspnea, and fever are common symptoms.

Pain in the early cases is not the severe, but rather a soreness, and radiating pain, which comes late with involvement of the chest wall and of nerves. In case the tumor begins at the periphery of the lung, pain may be the first symptom and cough long delayed. Symptoms and signs of pneumonia or a pleural effusion may be the first indication of trouble. Unexplained loss of weight may occur early in the disease. The first symptoms which cause the patient to seek medical advice may be referable to the central nervous system or the osseous system and due to metastasis.

Most important is the realization that the case may be one of cancer. Roentgenography is of great importance; but the final diagnosis must rest with the finding of tumor cells by biopsy through the bronchoscope, by the examination of bronchial secretions, or by examination of the lesion at poeration.

The loss of an entire lung does not greatly handicap in the majority of cases. The mortality rate of operation and the curability rate are little higher than those for carcinoma of the stomach. The resectability rate remains low, chiefly because the disease is not recognized early. Of the utmost importance is the determination to examine every chest for a possible tumor.

¹ J. J. R. Flick & L. D. Prutzman, Philadelphia, in *Pa. Med.* *It.*, July.

MANY OLD PERSONS NEED ABDOMINAL SURGERY

ONE NEED NOT be an over-zealous advocate of surgery to realize that many old persons would be happier for having surgical operations that would incur for them little of danger. Two Colorado surgeons¹ write helpfully on this subject.

The mortality rate in the entire biliary group was 21 1/2%. One 95-year-old patient had a spontaneous

¹ R. M. deRoy & K. C. Sawyer, Denver, in *Rocky Mountain M. J.*, Nov.

ous rupture of the common duct, no cause could be determined. She died of pulmonary embolism on the 8th postoperative day.

Carcinoma of the large bowel was responsible for 24 operations on eight patients. There were six deaths in the total of 18 patients, a 33 1/3% mortality.

There were 5 gastric and 12 duodenal ulcers—13 m. and 4 w.; complete recovery in all patients in this group.

Gastric neoplasms in 9 (8 malignant). There were 2 postoperative deaths; 2 patients were discharged as unimproved and 5 as improved.

Eight patients operated on for various types of hernia—6 w. and 2 m.; all were between 70 and 81—2 w. with strangulated inguinal, 1 m. and 1 w. with hiatus; 1 m. with an intrathoracic stomach associated with his hernia; 1 m. with an indirect inguinal; 1 w. with an umbilical and 1 with a strangulated femoral hernia; 3 w. had strangulated hernia with obstructive symptoms; 2 had strangulating hernia. Bowel resection was not necessary in any of these cases. There were no deaths in this hernia group.

One 74-year-old w. had an umbilical hernia present for over 50 years. Only when the hernia became very large and cumbersome did she seek surgical assistance. The sac was 10 in. in diameter at base, and contained a patent urachus at its inferior margin, and a considerable portion of the small gut and transverse colon were adherent to the anterior wall of the sac. This patient was completely relieved following operation.

Appendicitis in older patients usually produces an atypical clinical picture. Often the symptoms are of a milder nature and the patient will wait too long before consulting a physician.

A brief study is presented of 87 patients, 70 years of age or older, who had 100 major abdominal operations between the years 1945 and 1950. These patients tolerated their abdominal surgery very well. The mortality rate of 17.24% compares favorably with younger age groups if we consider the gravity of the diseases for which operation was done and the complicating diseases. Moreover, the reluctance of many older patients to seek medical assistance results in more advanced disease conditions when eventually seen by a physician. The results in this series should encourage doctors to advise more of their old patients to seek relief at the hands of surgeons.

INTRA-ARTERIAL INJECTION OF AMINOPHYLLINE FOR PERIPHERAL ARTERIOSCLEROSIS

NEWS of good results from office treatment of claudication is welcome news indeed. Read what Rickles¹ has to say.

¹ J. A. Rickles, Miami, in *Fla. Med. Assoc. J.*

In November, 1947, I started using aminophylline intraarterially. After being thoroughly convinced of the effectiveness and safety of the procedure, I used it in all cases that had not responded to simple means of treatment.

The method is so simple that I have been using this technic in office or home. The femoral pulse must be palpable. After the groin and thigh have been shaved and cleaned with alcohol and ether, and painted with one of the standard antiseptics, the artery is carefully palpated and held firmly between the index and middle finger of one hand. With the other hand, a 5 c.c. syringe with a 2% procaine and a 22- or 23-gauge, 2-in. needle is introduced 2 in. below the inguinal ligament and is directed cephalad; the subcutaneous tissue is infiltrated with the procaine, and a good periarterial infiltration made. With 2 c.c. left in the syringe, the artery is penetrated with the last $\frac{1}{2}$ -inch of the needle at an angle of 30°, the last 2 c.c. of novocain is injected into the artery slowly.

Syringe is disconnected from the needle, and a 20-c.c. syringe with $3\frac{1}{4}$ grains of aminophylline is immediately attached and injected, the injection being given in about two minutes. The needle is immediately withdrawn and moderate pressure is maintained for 15 min. The patient lies down for one hour following the injection. I have found it advantageous to give 1 1/2 grains of a fast-acting barbiturate a half hour before the injection is made.

To date over 300 injections have been made without a mishap. No thrombosis and no infection. It is possible by this means to obtain good vasodilation even after a good sympathectomy has been performed. This technic will relieve claudication that sympathetic blocks or sympathectomy have not helped. The dilation that follows the intraarterial injection takes place slowly. Occasionally, no heat is felt below the knee for 12 hours; but the dilatation will last several days.

For aged arteriosclerotic patients, on the average, only two or three blocks need be given. Some of these patients have had no recurrence of claudication in a year. As many as seven intraarterial punctures have been made in a two-week period in one patient with no untoward results, and 14 injections have been made in another over a two-month period with no apparent damage to the artery.

In 2 cases of popliteal thrombosis there resulted great improvement. In 8 others none followed sympathectomy.

In mild thromboangiitis obliterans, the dilatation will usually not be noticed until the next day with intraarterial aminophylline. In an occasional case, in which the claudication is not relieved by sympathetic block, considerable benefit will be received from the aminophylline. Patients subjected to

sympathectomies or sympathetic blocks respond better to the aminophylline. In cases in which the risk is good, sympathectomy should be performed first, this followed by intraarterial aminophylline therapy.

CHRONIC PERIPHERAL ARTERIAL INSUFFICIENCY: CLAUDICATION (Claudio, to limp; claudius, lame)

A FEW MONTHS ago a gentleman was sent to a clinic to have a sympathectomy done for the relief of his claudication. The surgeon declined to operate, the patient returned home, and has been doing pretty well under less heroic treatment.

Two Nebraskans¹ write encouragingly on recognition and non-operative treatment.

All of us would do well when confronted by a patient with aching or pain in his legs not to dismiss him lightly. Too frequently the answer can be found in the peripheral blood vessels. The historical indication of chronic arterial insufficiency is intermittent claudication—pain in the calf of the leg on walking and relieved by rest. Fatigue, burning and tingling are variants, and may precede claudication.

It requires only a few minutes to evaluate the vascular status of the extremities by physical examination. Elevate the extremities 60 to 90 and look for excessive blanching. Then, with legs dependent, note time required for normal color to return. A delay beyond 10 sec. is a significant finding. Any trophic changes such as atrophy, blebs, ulceration and gangrene are evident. Temp. changes can be fairly accurately determined by palpating with the dorsum of the hand. A decided change at a given level of an extremity is important. A difference between the two extremities is evidence of arterial impairment. Thromboangiitis obliterans is seen in the upper extremities, but much oftener in the lower.

If posterior tibials' pulsations are not felt in the usual location, circulation is impaired, but these vessels are absent in 2 to 5% of cases. In 12 to 14% of cases there is an anomalous course or absence of the dorsalis pedis.

95% of the cases of peripheral arterial insufficiency can be diagnosed with the information thus far elicited.

Tobacco must be prohibited, cotton or wool socks with lined shoes or overshoes worn when the seasonal temp. is not greater than 80-85° F.; long underwear is advised, bed rest for patients who complain of severe pain at rest or on short walking and those with trophic changes. For pain relief and as a vasodilator acetylsalicylic acid 40 to 60 grains daily.

Buerger's exercises are practiced. We use reflex heat by means of electric heating pads or hot-water

bottles to the abdomen, maintained during the complete exercise period. Heat to the extremities is interdicted because of the difficulty of controlling temp. In some instances we use boric acid or saline soaks at a measured water temp. of 98° F., repeated two or three times daily for a period of 15 to 20 minutes each, followed by a dry sterile bandage. Lanolin is applied over the lower part of the extremity to prevent dryness of the skin.

The vasodilating agents chiefly used by us have been Priscoline and whiskey, often prescribed concomitantly. Gingerale, sugar water or fruit juice with added sugar increases heat production. Dosage of Priscoline orally 25 mg. t.i.d., increased with tolerance to 150 mg. daily. Typhoid vaccine is popular with many physicians. It should be used with caution in arteriosclerosis. An excellent outline for care of the feet is detailed in Joslin's text on diabetes mellitus.

The surgical management of complicating gangrene is beyond the scope of this paper.

We have not used sympathectomy in treating such cases.

IN MEDICAL EXPERIMENTATION ON HUMANS NO SAFEGUARD SHOULD BE NEGLECTED¹

THE EDITOR of one of our best medical journals¹ has somewhat to say very much to the point.

The recent tragedy at the University of South Dakota where a young and apparently unsupervised physician accidentally administered a fatal overdose of methadon to two volunteers, calls for a reappraisal of human experimentation in medical investigation. Of course medical progress requires some experimentation on human volunteers.

It is incumbent upon organized medicine as a whole, and individual physicians everywhere, to prevent the recurrence of similar tragedies. A model for such prevention is provided by the regulations of the Federal Pure Food and Drug Act which have established definite steps before a new drug is released for general use: animal investigation, study of a new preparation by well-recognized clinics or hospitals, its subsequent release for investigative purposes on a wider clinical basis, and finally general distribution after all the contraindications and limitations have been defined.

A similar code of procedure is needed for the guidance of studies in which human volunteers are employed. Such a code should include a careful evaluation of the problem to be studied, supervision by an experienced senior investigator, a method for double-checking the physiologic effects and dosage of any drugs that may be administered, and adequate attention to the availability and proximity of antitoxins in case an accident occurs.

¹ Editorial in *Am. Med. Soc., New Jersey*, Nov.

A VISIT TO THE EMERGENCY ROOM of the modern hospital with its apparent over-supply of residents, assistant residents, interns, graduate nurses, student nurses and nurses' aides, patients' relatives, and spectators, reminds me of nothing so much as the drawings of medieval pesthouses.

Jonathan Forman, M.D., Editor, *Ohio Med. J.*, in the issue for November.

ATROPINE is still much the most reliable agent for anti-spasmodic effect on the upper intestine.

¹ H. N. Neu, M.D., and W. J. Reedy, M.D., Omaha, in *Jour. Iowa State Med. Soc.*, Oct.

NEWS

THE CARTERET COUNTY MEDICAL SOCIETY held its regular monthly meeting at the Morehead City Hospital the evening of November 12th—a dinner meeting, the hospital acting as host.

No formal paper was presented. A post-graduate medical course to be held in New Bern in January and February, and Sunday emergency medical and surgical service were discussed. The course is sponsored jointly by the Carteret and Craven Medical Societies.

A year-round Sunday emergency medical and surgical service is being provided by the physicians of the county on a rotating basis, all emergencies dealt with through the Morehead City Hospital.

Dr. P. T. Myers, Radiologist, of Kinston, who has been employed for the past two or three years by the Morehead City Hospital to interpret x-ray films, resigned as of December 1st. He is returning to his native state, Iowa. Plans are on foot to employ a successor to Dr. Myers.

Dr. N. Thomas Ennett, Carteret County Health Officer, called attention to the schedule of the State x-ray trailer which comes to the county November 27th to 30th as a feature of the war on tuberculosis. This service was obtained through Dr. W. A. Smith, director of the TB Division of the State Board of Health.

Dr. Grady C. Cooke of Morehead City, formerly of Winston-Salem, was received into membership of the Society.

Visitors were Drs. Barefoot and Nance, of Havelock, N. C.

Dr. C. S. Maxwell, president, presided.

N. Thos. Ennett, M.D., Cor. Sec.

THE SOUTHERN SECTION OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY will meet in Atlanta at the Academy of Medicine January 14th, 1952. This will be a one-day meeting, and there will be six speakers, each eminent in his own field:

Dr. John E. Bordley, Johns Hopkins, The Problem of the Preschool Deaf Child—The Otolologist's Role in Diagnosing His Deafness and Supervising His Rehabilitation.

Dr. Samuel L. Fox, Baltimore, Bleeding Following Tonsillectomy.

Dr. V. K. Hart and Dr. William Pitts (neurosurgeon by invitation), Charlotte, The Diagnosis and Treatment of Acute Subdural Abscess Secondary to Frontal Sinusitis.

Dr. Julius W. McCall, Cleveland, Cancer of the Larynx.

Dr. Harry Rosenwasser, New York, Glomus Jugularis Tumor of the Middle Ear. (He is the author of the first clinical article on this subject.)

Dr. Joseph A. Sullivan, Toronto, Recent Advances in the Treatment of Facial Paralysis and Bell's Palsy.

All members of the Medical Profession are cordially invited to this meeting. There is no registration fee.

MEDICAL COLLEGE OF VIRGINIA

Gifts and grants to the Medical College for the fiscal year 1950-51 totaled \$805,649.91. This amount included \$177,301 from the United States Army, \$44,685 from the United States Navy, \$154,587 from U. S. P. H. S., \$30,000 from the American Tobacco Company for two-year period, and \$15,000 from the Commonwealth Fund.

Dr. William T. Sanger, president of the College, was named president-elect of the National Society for Crippled Children and Adults at the recent annual convention in Chicago.

Dr. John M. Meredith has been appointed professor and head of the department of neurological surgery to succeed Dr. Claude C. Coleman, who resigned in June.

Recent promotions: To associate professor: Dr. Leslie E. Edwards, physiology; Dr. Henry G. Kupfer, clinical pathology. To assistant professor: Dr. Robert K. Waller, legal medicine. Recent appointments to the staff: To assistant professor: Dr. James G. Young, pharmaceutical chemistry; Jackson J. Taylor, physics; Ann Carolyn Smith, surgical nursing.

MARRIAGE

The marriage of Miss Elizabeth Wight Kyle, daughter of Mr. and Mrs. William Emmett Kyle, of "Edgewood," Alanton, on Linkhorn Bay, to Dr. William Cooke Andrews, son of Mrs. Charles James Andrews and the late Dr. Andrews, took place at 8 p. m. November 10th at St. Paul's Episcopal Church, Norfolk. Dr. Mason Cooke Andrews was best man for his brother; among the groomsmen were Dr. Edwin Ide Smith, of Norfolk; Dr. William N. Christenson, of Palm Beach; and Dr. Bruce Steward Manheim, of New York. Dr. and Mrs. Andrews will live in Norfolk.

DIED

Dr. Otis H. Purvis, 62, died at his home at Cheraw, S. C., on September 24th. A native of Florence County, he received his medical degree at the Medical College of S. C. (class of 1911). He first practiced at Effingham and in 1915 moved to Cheraw. Before illness made him curtail his activities he was one of the most active practitioners in the state. During recent years he served as part time county health officer.

Dr. Nathan B. Schofield, 67, died at a hospital in Florence on September 24th. He received his medical training at the Medical College of S. C. (class of 1909). Following graduation he opened an office in Marion where he built an extensive general practice. Illness forced his retirement from active practice several years ago. In addition to his medical work Dr. Schofield was particularly interested in Boy Scout activities and received a special award for work in this field.

Dr. Luther Jerrell Head, 85, retired Caroline County (Va.) physician, died November 8th at a Richmond hospital. A graduate of the University of Virginia and in 1903 of the University College of Medicine, Richmond, Dr. Head served as an intern at the Retreat for the Sick, Richmond, before settling down to practice in Caroline County. He was a member of the Caroline County School Board for over 30 years and a steward of St. Paul's Methodist Church.

Dr. G. AUBREY HAWES and Dr. CECIL J. HAWES, Charlotte, announce the removal of their offices to The Hawes Clinic of Urology & Urological Surgery, at 1333 Romany Road. Invitations are out for an open house December 6th, 6-9 p. m.

Dr. Robert Ross Hilborn, 71, former medical missionary to North Africa, died November 14th in a nursing home, following an illness of several months. A native of Ohio, he was graduated from Cleveland Pulte Medical College in 1908. After his return from overseas, he practiced at a number of places in N. C., last at Polkton until stricken in March.

MEDICAL UNITS WILL TRAIN AT PICKETT

Some of Camp Pickett's barracks left empty by departure of the Forty-third Infantry Division for Europe last month will be filled by troops of a new Army medical replacement training center.

An advance cadre from one, the 2131 ASU Medical Replacement Training Center, now at Fort Meade, Md., has already arrived. The Army announces that the other, from Fort Sam Houston, San Antonio, Texas, will be transferred to Pickett at a later date.

BOOKS

ATLAS OF GENITO-URINARY SURGERY, by PHILIP R. ROEN, M.D., F.A.C.S., Instructor in Urology, New York Medical College, with introduction by CLARENCE G. BANDLER, M.D., F.A.C.S., and illustrations by CHARLES STERN. *Appleton-Century-Crofts, Inc.*, 35 West 32nd St., New York City. 1951. \$8.00.

The author, realizing the difficulties in the way of learning well the technics of urologic surgery of the kinds suited to various localities and hospitals, with varying equipment of personnel and materiel, and finding no textbook teaching these technics in a way that he regards as satisfactory, decided on a book to present by simple line drawings the step-by-step progression of operative procedures, without long, involved and unnecessary explanations.

All of the standard procedures are included and technics introduced in the last few years which have gained general favor. In case a certain operation is considered quite superior to all others devised for accomplishing a certain purpose, only that operation is described. In case two or three equally successful variations of an operation are in general use all these are described.

The dealing with minor genito-urinary surgery is such as to be of great help to the general practitioner of medicine and surgery.

THYROID FUNCTION AND ITS POSSIBLE ROLE IN VASCULAR DEGENERATION, by WILLIAM B. KOUNTZ, M.D., Assistant Professor of Clinical Medicine, Washington University School of Medicine, Director of Clinical Services, Division of Gerontology, Washington University School of Medicine and St. Louis Infirmary Hospital. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$2.25.

In this paper postmortem findings of arteriosclerosis are correlated with clinical state antemortem. Evidence of hypothyroidism and advanced arteriosclerosis was common. The administration of thyroid was accompanied by a decrease in incidence of certain manifestations of arteriosclerosis.

COMPARATIVE PHYSIOLOGY OF THE THYROID AND PARATHYROID GLANDS, by WALTER FLEISCHMANN, M.D., Ph.D., Veterans Administration Hospital, Fort Howard, Maryland; Instructor in Pediatrics, The Johns Hopkins University School of Medicine, Baltimore. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$2.25.

This monograph concerns itself with the physiology of these glands in animals all the way from tunicates and acraniates, through fish, amphibia, reptiles and birds to mammals. It concludes with a recapitulation of findings which seem of general interest to the biologist, among these the storage of radioactive iodine in certain larvae, that human thyroid transplanted into certain tadpoles induces metamorphosis, and that the mechanism involved

in the synthesis of thyroid appears identical throughout the vertebrate phylum.

SURGICAL MEASURES IN HYPERTENSION, by REGINALD H. SMITHWICK, M.D., Professor of Surgery and Chairman of the Department of Surgery, Boston University School of Medicine. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$3.00.

After an introduction and a chapter devoted to the general characteristics of hypertension in man, the author proceeds to a consideration in great detail of the surgical measures which have been and are used in hypertensive patients, their technics, their methods of study, the selection of cases and their results.

We learn that an increasing number of patients have withstood the test of pregnancy, following lumbodorsal splanicectomy.

Operations which thoroughly denervate the splanic bed have been found most useful. The lumbodorsal technic appears to be the most useful.

EPILEPTIC SEIZURE PATTERNS: A Study of the Localizing Value of Initial Phenomena in Focal Cortical Seizures, by WILDER PENFIELD, M.D., C.M.G., D.Sc., F.R.C.S., F.R.S., Professor of Neurology and Neurosurgery, McGill University, and KIRSTIAN KRISTIANSEN, M.D., Assistant Surgeon, Oslo City Hospital, Oslo, Norway, Formerly Research Fellow, Montreal Neurological Institute, Montreal, Canada. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$3.00.

This monograph deals with the initiation of epileptic attacks and the localizing value of the particular form of seizure. It is recommended to the use of physicians having to do with the treatment of patients with all forms of epilepsy and surgeons who consider and undertake removal of lesions of the cortex on the assumption that such lesions are concerned in the causation of epilepsy.

OUTLINE OF FUNDAMENTAL PHARMACOLOGY: The Mechanics of the Interaction of Chemicals and Living Things, by DAVID FIELDING MARSH, Professor and Head of the Department of Pharmacology, West Virginia University School of Medicine, Morgantown. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$6.00.

The author has prepared a book for the student of chemistry, pharmacy or medicine, or for the research worker in any of these fields. It was realized that there were few well-trained pharmacologists as compared to the numbers of chemists, physicists, biochemists and physiologists carrying on pharmacological investigations, many of them not thoroughly acquainted with the principles of pharmacology. It was conceived that a book which would supply information facilitating such research would serve a good purpose and as such this book is offered.

SURGICAL TREATMENT OF THE MOTOR-SKELETAL SYSTEM, Supervising Editor FREDERIC W. BANCROFT, A.B., M.D., F.A.C.S., Professor of Clinical Surgery, New York Medical College, etc.; Associate Editor, HENRY C.

MARSH, A.B., M.D., F.A.C.S., Instructor in Surgery, Harvard Medical School, courses for graduates, etc. In two volumes, second edition. *J. B. Lippincott Company*, E. Washington Square, Philadelphia 5, Penn. 1951. \$24.00 for the 2 vols.

A Survey by the editor discovered no book on operative surgery that confined itself to the best means of dealing with the problems in this field. This caused him to plan and to, with the collaboration of some 60 specialists in this field, preface the two volumes under review.

Part I concerns itself with deformities, paralytic disorders; affections of the back, muscles, fasciae, etc.; new growths, diseases of bones and joints and amputations.

Part II treats of bone repair, fractures and dislocations in general and of special parts; sprains, sprain fractures, and muscle and tendon injuries; and birth injuries of motor-skeletal system.

This seems an eminently reasonable and practical division of the subjects, all of which have been discussed in a way to convey the latest information on methods of diagnosis, and treatment—immediate and mediate. Adequate pictures supplement the excellent verbal description.

It would be difficult to praise this work too highly.

SURGICAL PRACTICE OF THE LAHEY CLINIC, by Members of the Staff of Lahey Clinic, Boston. 1014 pages, 784 illustrations on 509 figures. *W. B. Saunders Company*, Philadelphia and London, 1951. \$15.00.

Ten years ago the first volume of the Surgical Practice of the Lahey Clinic made its appearance and was promptly accorded a hearty welcome. Before that time the phenomenal rise of this group in Boston had excited the admiring wonder of the medical profession. The preface of the present volume states that the members of the group have continued to be impressed with the fact that the employment of standardized operative procedures by all of the surgeons in the Clinic makes for refinement of operative detail and unhesitating co-operation on the part of the assistants. Most likely the carrying-out of this idea over the years has much to do with the rise to fame of the Lahey Clinic.

The sections of the present volume are: The Thyroid Glands and the Neck; The Esophagus, Lungs, and Heart; The Stomach and Duodenum; The Small Intestine, Colon, Sigmoid and Rectum; The Biliary Tract; The Spleen, Adrenal glands and Pancreas; The Breast; The Pelvis; The Bones and Joints; The Brain, Spinal Cord and Nerves; Anesthesia; and Miscellaneous.

It goes without saying that anything put out by this Clinic is of the highest order. Not necessarily, but as happens to be the case, the method of presentation is as admirable as the material presented is excellent.

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PHYSICAL MEDICINE AND REHABILITATION FOR THE CLINICIAN, edited by FRANZ H. KRUSEN, M.D. 371 pages with 96 figures and 13 tables. *W. B. Saunders Company*, Philadelphia and London. 1951. \$6.50.

This textbook is made up of the substance of a series of lectures on physical medicine and rehabilitation prepared for the American College of Physicians. The work is thought to be unique because it presents for the first time in recent years information prepared by a group of authorities the information needed by practicing doctors everywhere. Much attention is given to the elucidation of basic principles. The great therapeutic usefulness of heat, massage, exercise, ultraviolet radiation; training in the maintenance of proper posture, and the choice and pursuit of a proper occupation—these make up the first section. The second is devoted to the diagnostic application of principles, agents and procedures; the third (and last) the clinical aspects of physical medicine and rehabilitation.

All of us could well study this little book, to the profit of our patients and of ourselves.

THE SPECIALTIES IN GENERAL PRACTICE, edited by RUSSELL L. CECIL, M.D., Professor of Clinical Medicine, Emeritus, Cornell University Medical College, New York City. 818 pages with 470 figures. *W. B. Saunders Company*, Philadelphia and London. 1951. \$14.50.

It is gratifying to see that this group of eminent specialists are of the opinion that the general practitioner is capable of doing something more than the trivia of medicine and surgery. This reviewer first presented the cause of a Section on General Practice before the Council of the Southern Medical Association. One of the Councillors asked: "What would you hope to have presented in such a section that is not now being presented in other sections?" My answer: "Information for the General Practitioner on how to diagnose and treat his own patients, rather than information as to what specialist the patient should be sent to."

Although there is a good deal of talking-down to the general practitioner in this book and a lot of superfluity—e.g., a definition of orthopedics, and a listing of the organs that make up the male external genitalia—this book will serve well to supply information such as it was expected would be supplied, and which indeed has been supplied, in the Section on General Practice of the S. M. A.

USE AND ABUSE OF ANTIHISTAMINES

(W. S. Burroughs, Boston, in *New England Jl. Med.*, Oct. 4th)

Seasonal hayfever heads the success list in respiratory allergy: sneezing, itching and rhinorrhea are the symptoms most readily susceptible to relief. Perennial vasomotor rhinitis is frequently benefited. The antihistamines offer little aid, whatever the etiology, in long-standing cases of perennial vasomotor rhinitis due, most likely, to secondary changes in the nasal mucous membrane. Rough figures indicate that 70% of seasonal-hayfever patients and 50% of those with perennial variety may expect relief from full therapeutic doses. For the asthmatic patient the drugs of

choice are still epinephrine, epinephrine, isuprel, aminophyllin and the iodides.

The itching dermatoses do very well with the antihistamines, particularly acute urticaria and, less dramatically, chronic urticaria and angioedema. Serum disease is not far behind. Variable but less satisfactory results have been reported in topical or neurodermatitis, and in contact dermatitis (by both oral and topical routes), in the itching of jaundice and in pruritus ani and vulva.

Often helpful in motion sickness. Nausea and vomiting, either of pregnancy or from synthetic estrogens, have been benefited. The incidence of reactions due to sensitivity to injected agents may be reduced by combining antihistamines with agents to be injected or by preceding such injections by oral administration of an antihistamine. When given orally in conjunction with pollen therapy give one hour prior to injection of the antigen.

Parkinson's disease has reacted favorably to these drugs, particularly when combined with Artane or scopolamine hydrobromide. Sunburn may be prevented by the application of various antihistaminic ointments to the skin.

ORAL STREPTOMYCIN NOT BENEFICIAL IN NON-SPECIFIC

GASTROENTERITIS OF INFANCY

(*British Med. Jl.*, Sept. 29th)

I. At the City Hospital, Edinburgh, by G. M. Lowdon & M. M. McNeill.

From the gastroenteritis unit in Edinburgh 24 cases of non-specific infantile gastroenteritis treated with oral streptomycin are compared with a control series receiving no oral antibiotics. The streptomycin-treated cases did not show better clinical progress than the control cases.

II At the Queen Elizabeth Hospital, by W. F. Young et al., Hackney.

Trials of oral streptomycin for infants under one year suffering from endemic non-specific gastroenteritis were made in three stages over the period Aug., 1947, to Feb., 1950. The main stage included 97 babies, alternate cases in each age group being allocated to the trial and control series. No clear-cut response to streptomycin has been demonstrated. It cannot be regarded as an effective therapeutic agent for the disease.



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JAMES M. NORTHINGTON, M.D., Editor

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Management of the Patient with Incurable Cancer

ROBERT L. BROWN, M.D.*

THE SUBJECT of this discussion when first announced was "The Management of Incurable Cancer." The real problem, however, is the management of the patient with incurable cancer. At this stage of the disease very little can be done for the cancer but it is still possible to do something for the patient.

The manner and attitude of the physician are important. Just because the disease is incurable does not mean that nothing can be done. Many diseases are not cured but the physician's care is beneficial just the same. This is also true of advanced cancer. There is almost always something that can be done to contribute to the comfort and happiness of the patient. It is essential that the physician always have his patient's best interest at heart and that the patient realize this. In such a situation as this, when it is not possible to do big things, little things assume greater importance, and are appreciated by the patient out of all proportion to their magnitude.

HOW TO HELP THE PATIENT MEET HIS PROBLEM

In order to help the patient meet his problem,

it is important that he have an understanding of his illness. This brings up the age-old question as to what the patient should be told. Far older than "The truth, the whole truth and nothing but the truth" is a precept as old as medicine itself, "Non nocere" (do no harm). The patient should be told that part of the truth which will help him. There can be no fixed rule which will apply to all patients: the insight and understanding of the physician and the problems of each patient determine just what should be said. The truth can be cold and cruel, or gentle and merciful, according to the manner of the informer. Many patients do not ask for specific information, probably because they do not want to have their fears confirmed. As time goes on a tacit understanding practically always develops between the physician and his patient, and one cannot help but feel that it is best that some things be left unsaid. When the patient finally realizes that he is not going to get well he is usually so worn and tired that he does not greatly care.

Almost always the condition can be explained as being due to a tumor or new growth, pain accounted for by pressure on nerves, and bleeding or discharge as occurring from ulcerated areas in the growth. It has been my custom when the patient has an advanced malignant tumor, to avoid the use of the word cancer, rather than to deny it. It is essential of course that the patient understand

*Associate in Surgery, Emory University School of Medicine. Associate Director, Robert Winship Memorial Clinic, Emory University, Georgia.

Paper was read at the Postgraduate Course in Medicine and Surgery for General Practitioners, at Grady Memorial Hospital, Atlanta, October 12th, presented by Emory University School of Medicine.

that his illness may be prolonged and that he cannot count on returning to work. This will help him in making such financial adjustments as he may need to make for his business interests and his family.

Epicetus, many centuries ago, said "Every vessel has two handles, one by which it may be borne and one by which it may not be borne." We should try to help the patient take hold of his illness so that it may be borne. This is not always easy but there is almost always some way to bring it about. Sometimes centering his interest on the past rather than on the future is helpful. Sometimes pointing out that even though he is ill, it is possible for him to be at home with his family. Sometimes if he is in the terminal stage of his illness and in the hospital, just the realization that everything that can be done for his comfort is being done makes the situation bearable for him.

Osler, as you may recall, advocated "Life in day-tight compartments." With a limited period of life due to the presence of incurable cancer, each day becomes of much greater importance to the patient, and anything that we can do to help him fill each day with the things that he most wants to do and which will be the most rewarding for him will be helpful. Also if he can be led to realize that life is very uncertain for all of us and that today is the most important time since none of us knows with certainty about tomorrow. In this way, if he is even reasonably comfortable, he can maintain an interest in life on a day-to-day basis which he might lose if he looked ahead to a dark future. Many patients, as a matter of fact, most people and especially women, tend to want to cross bridges before they get to them. Anything that we can do to help patients with cancer to avoid this very potent cause for worry and concern will be helpful. Many times they anticipate that they are going to have far more discomfort than they actually will have, or that things will happen which may actually never occur.

Anything that we can do to get the patient's interest centered on something other than himself and his illness will be greatly beneficial. Help him to continue his interest in world or community affairs, in his hobbies, in reading, in music, as long as at all possible. Even when he becomes too weak to do these things, it is possible by keeping him informed of what goes on in the outside world to some extent to divert his attention from himself. A chronically ill person is usually interested in what well people are doing and a few minutes taken to tell him about things that you have done, or that you have heard about—matters in which he is known to have special interest—are minutes well spent.

MEASURES FOR THE PATIENT'S PHYSICAL COMFORT

A. There are a number of measures which are of great value in the management of the patient with incurable cancer, which do not call for the use of drugs for the relief of pain. Hormone therapy is a very helpful palliative measure and will at times result in a diminution of pain and an increase in appetite and sense of well-being. In advanced cancer of the breast in women before the menopause, testosterone is the best hormone preparation to use. Dosage levels from 50 to 100 milligrams three times weekly intramuscularly should be kept up for at least two or three months, and often longer. In a few instances we have seen improvement occur after the drug was stopped, apparently due to a hormone imbalance phenomenon. Mesthostan, one of the newer androgens, can be given by mouth and is supposed to cause fewer undesirable side effects. It worked well for the first patient to whom we gave it; but since then it has been disappointing. It is doubtful if it will take the place of testosterone. Dosage should be in the neighborhood of 50 milligrams or more daily by mouth. In elderly women with cancer of the breast, stilbestrol may occasionally give dramatic relief. The dosage has varied considerably, but 5 milligrams three times a day is probably the best one to start with. If this brings about improvement the drug should be continued. If this dosage is not tolerated a smaller dose may be used. If there is no benefit with 5 milligrams three times a day, increased dosage may be tried. In cancer of the prostate, stilbestrol deserves its good reputation. Here also the dosage has varied from 3 to 15, to as much as 80, milligrams a day. Probably the dosage most frequently employed is from 5 to 15 milligrams daily, and it may be continued over a considerable period of time.

ACTH and cortisone have so far been disappointing in the management of advanced cancer. There may be a transitory improvement and a sense of well-being and some improvement in appetite, but it is usually short-lived and a number of cases have been reported in which it appeared that the malignant process had been stimulated by the hormone. About the only exception is the treatment of acute leukemia in which ACTH and cortisone have been found of some value. Here again the effect is a limited one.

X-ray therapy may prove to be of considerable value particularly so in many cases of metastatic cancer involving bone. This therapy is certainly preferable to large doses of narcotics, and should be considered before major neurosurgical measures. In cancer of the breast it has had a very real place in our armamentarium and has brought about relief of pain repeatedly when bone is in-

volved. It also has a marked limiting effect on the local lesion and a number of patients with advanced cancer of the breast who present themselves at first examination with metastatic disease, x-ray therapy of the primary lesion and of the metastatic disease has resulted in very significant palliation. In cancer of the thyroid, radioactive iodine has proved to be of considerable value, and we are finding that it is picked up in more cases than at first anticipated. The use of propyl thiouracil, and more recently of tapazole, prior to the administration of the radioactive iodine has increased the pick-up and has resulted in greater clinical improvement. We have seen indurated, fixed nodes in the neck reduced very markedly in size. We now have a patient who had cancer of the thyroid which invaded her trachea and caused practically complete obstruction necessitating tracheotomy; whose disease process, following radioactive iodine, has regressed so that it is no longer visible in the trachea or larynx, and the patient can now breathe without difficulty with her tracheotomy closed. Radiation has a very definite place when the management of the patient with incurable cancer presents itself.

Neurosurgical measures for relief of pain can sometimes be very helpful in the management of patients with advanced cancer. The location of the disease is important. When it is unilateral, a cordotomy can give marked relief and is certainly worth while if the life expectancy is six months or longer. Bilateral cordotomy may also be employed but it is often accompanied by the patient's inability to empty his bladder and rectum and may create a problem of nursing care. Pre-frontal lobotomy has not been used widely in this area and we do not have direct experience with it. Some neurosurgeons have reported benefit from its performance, in that the patients do not seem to be disturbed by their pain even though they still have it. An argument against the operation is that it may create a constant nursing problem and that it may bring about marked personality changes. This is a field which has not yet been completely explored. The operation may prove to be of more value in the future. Alcohol injection of peripheral nerves, or into the spinal canal, has not proved to be of great value and is now seldom employed at Emory. The pain of advanced cancer due to invasion high in the neck is an extremely difficult problem, since so many nerves are involved and in this area neurosurgical measures have not so far been impressive.

B. Cleanliness is of great importance, especially for patients with ulcerating lesions. Adding to the cheerfulness of the surroundings vastly improves any patient's feelings, appetite and sleep. Attention should be given to intake of food and fluid and efforts made to keep it adequate. If a patient is

unable to swallow—e.g., because of an advanced carcinoma of the esophagus—a gastrostomy may become necessary, so that the problem of starvation will not be added to those already taxing our resources. In case of obstruction of the lower gastrointestinal tract due to advanced cancer, a colostomy, properly cared for, contributes greatly to the patient's comfort. We have found that the most satisfactory plan is to irrigate the colostomy thoroughly each day.

C. The problem of medication presents itself and is a major consideration. A patient with advanced cancer will probably live longer than you expect him to, and will do better if he does not receive any more pain-relieving medication than he really needs. The severity of pain is not in direct relation to the extent of the disease. Many patients with very advanced, incurable cancer have little pain. Aspirin, empirin, and phenobarbital should be used as long as they are effective. Empirin Compound No. 3 has been our most valuable agent for the control of the discomfort of advanced cancer. This has remained effective over many months and only when it is no longer helpful need morphine or similar compounds be considered. Dependence on hypodermic injections should be postponed as long as possible. Morphine is very valuable when really needed. H. M. C. is sometimes effective when morphine itself ceases to be. Methadon or Dolophine may afford relief and they are relatively low in cost to the patient. The drug can be given either by mouth or hypodermically and the usual dose is 5 to 10 milligrams.

Drug addiction is not often a problem because of the limited duration of life in advanced cancer, but it is possible to give too much medication and some patients feel better when the dosage is reduced to the lowest level which will give reasonable ease. The ideal of a completely comfortable patient is seldom realized, but when the patient understands that even though he may have some discomfort, measures will be taken to keep it from being severe, the situation usually works out fairly satisfactorily. If the patient feels that he should not experience any discomfort at all, he will be calling for medication when many times it is not necessary.

WHAT TO TELL THE PATIENT'S FAMILY

Another question which arises concerns what should be told the family. It is our belief that responsible members of the family should be fully informed about the patient's disease and its probable outcome, unless the patient has made specific requests otherwise. Sick people are sensitive to the atmosphere about them and the family should be encouraged to adopt a hopeful optimistic attitude, certainly while with the patient. It is still necessary in many instances to relieve their fears re-

garding contagion. It is best not to predict the length of the patient's life since your prediction will probably be very inaccurate, general terms, such as "weeks rather than months," or "months rather than years" are best.

SUMMARY

A. By our manner and attitude we should convince the patient that we are going to stand by him, to help him in every way possible, and that we will not neglect him. We should not forget the real value of palliation. The care of the patient with incurable cancer is trying and difficult, but the physician's efforts are appreciated by the patient and his family out of all proportion to what our best efforts are able to accomplish.

B. We should try to help him adjust to his disease and to the marked changes in his life plan which his illness has brought about.

C. We should do all that we can to relieve his discomfort and should remember that measures other than heavy sedation may prove to be of very real value.

D. In incurable cancer, as indeed in all of medicine, the secret of patient care lies in caring for the patient.

E. We should be constantly aware that the duty of the physician is to cure sometimes, relieve often, to comfort and support always.

USES AND DANGERS OF CATION EXCHANGING RESINS

MUCH is being written about the use of resins as medicines. A synopsis of a reliable account follows.

There are at present three types of commercially available cation exchange resins. All these resins are administered in essentially the same dosage, which is adjusted to the patient. The resins are given in water, milk, or fruit juice in equally divided doses at 10 a. m., 3 p. m. and at bedtime, to a total of 40 to 60 gms. per day. The patient's preference, as to taste, may be the deciding factor in the selection of the particular resin used. In general it seems that the hydrogen cycle resins are best tolerated.

All presently available cation exchange resins have inherent in their action certain potential hazards to the patient. These may become of great significance if certain warning clinical symptoms and laboratory findings are neglected or ignored.

Warning symptoms include: apathy, anorexia, or air hunger; muscle weakness, paralysis, or abdominal distention; nausea and vomiting, muscle cramps.

The use of cation exchange resins in cardiac disease usually requires a simple type of study—daily weighings to insure adequate dosage, serum CO_2 combining power and serum chloride to warn of approaching acidosis or sodium depletion in patients who are eating an adequate diet. In case of renal disease daily weight and determination of 24-hour urinary output, and frequent determination of serum sodium, potassium, chloride and CO_2 content or combining power. We have used ecg. as a screening method for K deviations.

Cation exchange resin mixtures are an effective clinical means to achieve sodium depletion in edematous and hypertensive patients. These agents are not without danger and require careful clinical and laboratory study of patients.

1. M. M. Best, M.D., New Albany, in *J. Indiana Med. Assn.* Dec.

treated with various resins, we have had examples of gastric irritation, fecal impaction, severe acidosis and marked depletion of sodium and potassium.

It seems likely that the present-day management of patients with congestive heart failure will include digitalis, modified dietary sodium restriction and the use of cation exchange resins. Mercurial diuretics can then be used as needed to achieve and maintain a "dry" weight.

Cirrhosis of the liver with ascites and edema has responded in a satisfactory manner to a high-protein diet, cation exchange resins, vitamin supplements and infrequent use of mercurial diuretics.

Cation exchange resins are difficult to use in the presence of renal disease. However, if edema is incapacitating, resins may be safer than mercurial diuretics. In our experience the use of the anioncation exchange mixture has seemed to delay the development of severe acidosis in patients with renal disease.

Supplies of cation exchange resins were generously supplied by Smith, Kline and French Company, Philadelphia, National Drug Company, Philadelphia, and Eli Lilly and Company, Indianapolis.

TOO MANY CIRCUMCISES

C. O. McCormick, Indianapolis, in *Ill. Med. J.*, Nov.

Too many babies are circumcised, and there are two common errors in the usual technic: the removal of too much foreskin, and unnecessary suturing. We should strive to leave the glans at least two-thirds or three-fourths covered. Hemostasis is the only indication for sutures, and they are rarely necessary. The clamp method greatly eliminates their need. An excellent circumcision dressing is a rolled five- or six-inch piece of surgical gauze, 3 in. wide with sterile aborbene wrapped firmly about the penis, not disturbed until it drops off the third or fourth day, when the wound requires no further dressing.

AN EARLY SIGN OF PNEUMONIA

C. H. Seeger, M.D., Benton, in *Arkansas Med. Soc.*, Nov.

A sign that can be found from 12 to 18 hours before any other is this: Over the area of involvement, by gentle feeling over the chest, you can ascertain an area that has the feeling of chill bumps, while both areas look the same. I have repeatedly checked this sign both by waiting for developing of dullness and rales and by an early chest film. I have found it to be accurate. By being able to find an early sign and by our up-to-date methods of treatment, a case of pneumonia may be aborted or at least developed into a mild case.

When you find an area of the chest that has the feel of chill bumps, as the infection spreads the area of roughness spreads. Also, as the condition in the lungs improve, the area of roughness disappears.

MEDICAL TREATMENT OF PEPTIC ULCER

(Albert Weinstein, Nashville, in *Sou. Med. J.*, Nov.)

Aluminum hydroxide gel has practically replaced absorbable alkali as the antacid of choice. Its constipating effect may be prevented by the use of combinations of the gel with magnesium salts. Laxative effect of this combination may be excessive in a patient with an irritable colon. Synthetic resins have the advantages of the aluminum salts and do not cause the undesirable constipation. Enteroagastone in the future will be of value since it inhibits gastric secretion and motility. One can hardly overestimate the value of complete bed rest.

SURGERY can be done in the case of the patient with diabetes as safely as in that of the nondiabetic if he is otherwise in a comparable state of health. Insulin has made this possible. The choice of anesthetic agent should be determined primarily by the surgical requirements rather than the existence of diabetes.

DEPARTMENTS

HUMAN BEHAVIOUR

For this issue FREDERICK A. ERSKINE, M.D., Richmond, Va.
Member of the Staff of Westbrook Sanatorium

"JEALOUSY"

THOUGH jealousy exerts a profound effect on human behaviour—each day uncounted lives being injuriously influenced, even lost, because of it—it is usually merely acknowledged as an emotion and no effort made to understand the underlying dynamisms. This unfortunate approach may be noted not only amongst practitioners, but even in many current standard psychiatric texts.

The reason this may be termed "unfortunate" is because, with an understanding of the background factors, one can do much to alleviate much suffering: (1) by modifying attitudes or behaviour on the part of the "love object" which are known to precipitate jealous reactions—*e.g.*, by having him avoid discussion of past events or current situations (especially with respect to infidelity), which would remind the jealous patient of a humiliating past experience; (2) by modifying attitudes or behaviour of the jealous patient which would minimize any threat to his security, real or imagined, with which he is faced—*e.g.*, emphasizing and cultivating any and all assets, both physiologic and psychologic, which might serve to increase self-esteem.

The fear of losing ones love object or mate creates an insufferable dread in the adult jealous patient, based primarily on insecurity, and these people react (over-react) with an attitude of complete possessiveness, often manifested very aggressively. This attitude has harmful effects on the love object, and the jealous patient himself experiences strong guilt feelings over his behaviour while in the throes of his jealousy. These guilt feelings (as with many guilt feelings), if internalized, result in depression. Since depression always initiates an increase in narcissistic needs, the prevalent compensatory attitude becomes: "I'm no good—nobody wants me—nobody loves me—what have I ever done that's been good or worthwhile? I might as well be dead"—all thoughts requiring refutation.

In order to reestablish lost self-esteem, the jealous person will, by all and any devious means, attempt to enforce the above-mentioned refutations and have those around him prove (usually by signs of affection), that he is a worthwhile, and what is more important, a desired person. These "means" usually constitute neurotic behaviour, often sadistic or hurtful in type, and as such engender additional guilt feelings, thus setting up the proverbial vicious

cycle.

Of course, instead of internalizing aggression, the fault may be projected on to others with the jealous person identifying himself with the criticism. In this instance one is dealing with the defensive paranoid reaction of Freud, the purpose served being a warding off of urges toward unfaithfulness in himself rather than a reaction to threatened loss of security per se.

Whichever course the aggression takes, the fact is that in the jealous patient loss of love is almost commensurate with loss of his very being. As such it is intolerable to him and he reacts by complete possessiveness, often by trying to anticipate such a threat of loss by accusations of infidelity (usually entirely unfounded), threats of harm to self or others (blackmail through neurosis), and even actual aggressive reaction patterns. It would seem that these patients are incapable of countenancing the least threat to their very shaky security, and prefer the extremely unpleasant experience of accusation—denial and counter-accusation, time after time to the possibility of being "fooled again." This, even though they know from experience the extremely unpleasant, emotionally trying arguments which follow their stabs in the dark while attempting to anticipate the unknown. Their ego-structure, shaken to its foundations once, will not or cannot expose itself to a possible repetition. It is the intolerance to this particular stress which fosters the obsessive character of jealousy. It would appear that jealousy is "fixed" as a reaction pattern because it serves to ward off far less tolerable thoughts—*e.g.*, the loss of love (*i.e.*, the loss of self-esteem).

There are, of course, other forms of jealousy founded on similar dynamics. In sibling rivalry, or with jealousy in children, the same fear of loss of self-esteem is manifest, although usually of far less intensity. The same element is likewise present in the jealousy shown toward many daughters-in-law by mothers who no longer enjoy first place in the hearts and minds of much loved sons.

Wherever jealousy is manifest, the sine qua non of successful therapy resolves itself into endeavour which will provide a milieu, internal and external, fostering security.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

WHERE ARE WE GOING?

ONE of the truest axioms is that "a house divided against itself cannot stand." Two well-organized hospitals in North Carolina have had to appeal to the courts seeking justice, in their training school program, in the last two years. It is bad enough

to be in court with your enemies and opponents, but it is still worse to be in court with your colleagues and co-workers. There you lose even if you win.

The writer was sorry to see in the public press a comment by one of our Judges to the effect that the law was so set up concerning nurses' education that the student nurses were penalized for something over which they had no control. The law which he had reference to prohibits a graduate nurse from the privilege of taking the state examination unless the school from which she graduated was approved by the Executive Board (five in number) of the Nurses Educational Association. Now the method of approval for nursing schools as well as medical schools is a "negro in the woodpile," but Governor Gregg Cherry and his advisors were aware of this situation when he appointed a committee to investigate all of the Licensing Boards in the State of North Carolina.

Why must we fight among ourselves? The medical and nursing profession were born of a common need, have grown up and developed together and are as dependent upon each other for efficient service as the lamp is the oil. How was it then that there professional jealousy crept in to split wide open this admirable union? Selfishness played a large part, selfishness has eaten to the core of the professions. Those of us who are responsible for nurturing this evil should take note that the lay public has no patience with the program, and that the courts consulted said that, unless the professions clean up their own back-yards, the lawmakers will attempt to do it for them. This is socialized medicine.

The great good that could come out of coöperation between those leaders in the nursing profession, the field of hospital operation and the medical profession, would redound to the glory of all concerned. The sick would be relieved to a much larger extent, and illness would not be nearly so unpleasant and trying. The public is begging us to settle our differences and make available nursing care for sick humanity. They have been patient but their patience is wearing threadbare. The only persons capable of bringing order out of this disorder are the medical and nursing profession and the hospital administrators.

If selfishness were put aside and all would sit down to the table of justice, honesty and tolerance, the whole matter could be amicably settled in a few hours. Everyone's ambition can be satisfied if that ambition is flavored with charity, integrity and unselfishness. We have the ability; we have the money; we have the personnel to operate sufficient schools of nursing to supply the needs of our people. Why then must we wait? The responsibility is ours, and above all, the glorious privilege is ours;

but it will not always be thus unless, by prayerful and careful coöperation, many obvious wrongs are righted. The hospital associations in this country must cease to respond to dictatorship. The nursing profession and the medical profession must do likewise. A broad democratic program must be advanced and rapidly put into progress so as the Golden Rule may be so evident that it would give us one more chance to do our duty to sick humanity.

PEDIATRICS

GAYLE G. ARNOLD, M.D., *Editor*, Richmond, Va.

CONGENITAL DEFECTS

On many occasions the pediatrician is the physician who is first consulted about congenital defects, and it is well for him to have some idea of the modes of origin of these defects. This is important to the parents, so that they may not needlessly reproach themselves, and so that they may better realize what the chances are that another child might be similarly defective.

Dr. F. Clarke Fraser, who is a physician, and a geneticist, reviews this subject for us in a recent publication.* Theories as to causation of the defects are divided into (1) genetic; i.e., hereditary, (2) environmental, and (3) of obscure causation.

Heredity defects are "those determined by factors transmitted through the germ cells." In some families defects follow a simple Mendelian pattern, so that a single gene locus is changed. Such defects are represented by hydrocephalus, cataract of certain types, cleft palate, cleidocranial dysostosis, claw hand, split foot, polydactyly, brachydactyly, dislocation of the hip, sickle-cell disease, osteopetrosis. Legg-Perthes' deformans juvenilis, fibrocystic disease of the pancreas, ichthyosis, and others. The type and frequency of the inheritance of these diseases depends on their genetic characteristics; i.e., dominant or recessive, etc.

Environmental factors are important in congenital defects, the most infamous being the rubella virus, which, when active during the first trimester of pregnancy, can cause cataract, deafmutism, and heart defects. The best available data now point to a 40 per cent incidence of defects in offspring of a pregnancy complicated by rubella. Irradiation is another environmental factor of importance.

Some defects have an obscure causation. This applies to clubfoot, anencephaly, and cleft lip and or palate. Although several members of a family may show these defects, no Mendelian pattern is recognized, indicating that the genetic situation is very complex, or that they result from an interaction of genetic and environmental factors. Mongolism and hypertrophic pyloric stenosis may be

other examples of such interaction of genetic and environmental factors. Cases from each of these groups may be clinically indistinguishable.

Much of interest has accumulated in the experimental production of congenital defects. Application to clinical medicine remains to be worked out. Examples of experimental situations which may lead to congenital defects include dietary deficiencies, injurious physical agents (x-rays) and chemical agents (trypan blue, nitrogen mustard), endocrine factors (sex hormones, pituitary hormones, cortisone, etc.) "The incidence and the type of defect varies with the agent used, its dosage, the stage of gestation at which it is applied, and the genetic constitution of the animal involved."

¹Fraser, F. C., & Fainstat, T. D.: Causes of Congenital Defects. *Am. J. Dis. of Children*, 82, Nov., 1951.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., Editor, Mannboro, Va.

THE MANAGEMENT OF CIRCULATORY FAILURE

SENSIBLE INSTRUCTION on what to do for patients whose circulation is failing is always in order. Dock¹ supplies it.

Slowing the heart is of utmost importance, and this may occur merely through relief of fright, when the patient has confidence that the doctor is competent and diligent. This deceleration is further helped by judicious use of a narcotic for a day or so, and sedation thereafter. It may be greatly assisted by a cool oxygen tent, if the patient is not alarmed or annoyed by this device. A decrease in symptoms is often effected by proper posture alone. Often in urgent dyspnea the most restful posture is sitting in the armchair before a table piled with pillows on which the patient can lean forward. In some cases an ordinary bed, with the head end tilted up so the whole bed is at 30°, is more comfortable than the propped-up Gatch bed. On a tilted bed the patient can roll on his side, or lie prone.

Bleeding, when hemoglobin levels are over 12 gm. per cent, the liver large and the neck veins full, not only relieves the engorged venous system, but may lead to a rise in cardiac output, by relieving over-dilation and tachycardia. Sodium depletion, by diet, mercury and cationic exchange resins, not only relieves pulmonary edema but by reducing myocardial edema may improve the function of the ventricles.

Digitalis is of greatest value when it slows the ventricles in auricular fibrillation, but it may have striking effects on failure with regular rhythm. When given with mercury, sedation, etc., its value can not be assayed; when given after some days on a constant regimen it causes no striking benefit

¹ William Doe, in *Bull. New York Academy of Med.*, Nov.

in more than half these cases, but in 1/3d of the older patients, and occasionally even in children, it causes great improvement in myocardial vigor and relieves symptoms. It should always be given until it gives a good result, or causes coupled rhythm, nausea, or other toxic signs. These latter may be caused by half the average digitalizing dose, or may not occur until twice this dose has been given within 36 hours for digitalis or 6 hours for strophanthin.

Correction of anemia is an urgent matter in some patients with heart failure and can safely be done with packed red cells. Starvation, disguised as Karrell diet, is usually wrong. The patient needs a simple solid diet, with small frequent feedings and minimal salt intake as long as blood urea is below 80 mgm. per cent. Five mgm. a day of thiamine is needed in many cases, so that we use it routinely. If there is good reason to suspect Graves' disease, suitable tests and antithyroid therapy should be undertaken at once.

The management of heart failure, which so often begins as an emergency, usually develops into a permanent way of life. In the future, surgery will be more often undertaken to lessen the load on the heart and hypothyroidism eventually induced in cases not otherwise held in check.

The fundamental elements for effective control of heart failure are a hopeful, well-instructed patient and a physician who appreciates the hazards of over-cautious regimens, the value of maintaining good morale and bodily fitness, and the need for exhausting simple and reversible forms of therapy before considering those which are costly, hazardous, and irreversible.

INDIVIDUAL PRE-PARTUM CARE

A NUMBER of valuable points from a wheat country doctor.¹

When a pregnant woman has a B.M.R. of to minus 10, I give her 1/2 to 1 gr. thyroid extract per day; and I am likely to do this if the BMR is up to plus 10, provided the blood cholesterol is at or near 250 mgms. per cent. A borderline or an actual sub-thyroid condition furnishes a large number of early, spontaneous abortions.

In a series of 57 patients with toxemia of pregnancy followed for one to 19 years the incidence of toxemia was over 3 times as high in patients whose parents had suffered from hypertension.

The patient who established her menses late and who has a scanty irregular flow is an excellent candidate for early abortion. In case of one with a history of rheumatism, recurrent tonsillitis or scarlet fever, with or without rheumatic heart disease, an especial concern is to detect the first signs and symptoms of cardiac inadequacy.

¹ J. H. Moore, Grand Forks, N. D., in *Jl. Kansas Med. Soc.*, Sept.

When the examination of the obstetric patient is made, make it a complete one. Start at the head and work downward, reserving the pelvic examination and measurements for the last. External pelvimetry is of value for two reasons: 1. It impresses the patient with the fact that you know she has a pelvis; and 2. It gives you a rough idea of the architecture of that pelvis. I still take the inter-spinous, intercristal, bi-trochanteric, external conjugate, bi-tuberous and posterior sagittal diameters some time in mid-pregnancy, especially in the primiparous patient. At our obstetric patient's first visit we have this basic laboratory work done: urinalysis, hemoglobin determination, red and white blood cell counts, Wassermann test, Rh factor and blood group. When the Rh factor is negative, the husband's Rh factor is determined as well as his blood group.

Investigate weight gain in pregnancy. Fat men and women, the world over "don't eat a thing."

I ask my constipated patients to drink a glass of hot water and to eat an apple or an orange each a.m. before breakfast, and each p.m. before retiring, and to drink at least six additional glasses of cool water during the day. It becomes necessary to add mineral oil at bedtime in many instances.

Mineral oil alone, or with milk of magnesia, will reduce the incidence of hemorrhoids somewhat; suppositories will often help a great deal. When a pile becomes thrombosed, the kindest thing to do is to evacuate it by incision following infiltration with 1% novocaine; then use the suppositories.

Ask the pregnant woman to bathe the breasts, particularly the nipples and areolae with Ivory soap, warm water, and a coarse-meshed wash cloth at least three times a week and pat, not rub, the breasts dry with a coarse towel after bathing. The Camp garment is used exclusively where a pre-partum garment is needed. It helps to relieve low-back pain, it aids in the relief of constipation, it reduces the incidence of lower-abdominal discomfort and it encourages the patient when she realizes that you are trying to conserve or improve her figure.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

Is MULTIPLE EXTRACTION OF TEETH HAZARDOUS?

EVERYBODY has heard, and apparently most dentists believe that it is dangerous to remove many teeth at one sitting.

Here is what a British dental surgeon¹ has to say.

Multiple extraction of teeth under hospital con-

ditions with proper postoperative rest in bed are generally free from any unpleasant sequelae.

Two people were each advised to have nine infected teeth extracted: one, a woman who was suffering from subacute arthritis, had all taken out at one sitting; the other, a man who had phlebitis, had only one removed. The woman had a temporary exacerbation of her arthritis, which might have occurred if one tooth had been extracted, but she then had a clean mouth. The man suffered from a pulmonary embolism, which might have been no larger had all the teeth been removed, and he still had to face the extraction of 8 more teeth.

A young woman who was suffering from iritis in both eyes was found to have general pyorrhea. All of her 28 teeth were extracted under nitrous oxide at one sitting. After a few days in bed the mouth quickly became healthy and the iritis gradually resolved without exacerbation or recurrence.

Several of my dental friends endeavour to remove all infected teeth at one sitting, under nitrous oxide or other general anaesthetic. It is argued that if some infected teeth are left the raw sockets are in danger of reinfection, also that the residual infection continues to depress the general resistance; moreover, the knowledge that all the teeth are out acts as a very real tonic.

In my own experience, spread over 30-odd years, which covers a very large number of multiple extractions, I have known no untoward effect which with certainty could be attributed to the extraction of an excessive number of teeth, nor have I met a dental operator who has done so.

Since 1948 the practice of extracting, if possible, all the infected teeth at one sitting has increased very greatly, partly at least to save time: it seems both unwise and unjust to condemn this procedure unless experience as well as hypothesis show it to be wrong.

FOCAL INFECTIONS AND SYSTEMIC DISEASE (Editorial in *The New England Jl. of Med.*, Nov. 1st)

Countless teeth have been removed in an effort to cure or relieve various systemic disorders. The scarcity of instances of lasting improvement resulting from dental surgery in such cases has raised considerable doubt concerning the rationale of this procedure. The demonstration of the effects of the adrenal hormones in many of these disorders obviously calls for a new appraisal of the role of focal infections in such conditions.

UNALTERED PROTHROMBIN TIMES IN PATIENTS TREATED WITH GLUCOMYCIN

(W. E. Woolridge & Mary Hoffman, in *Antibiotics & Chemotherapy*, July)

Ten patients, free of disease, were treated with oral glucomycin. In each case the total was 2 Gm. streptomycin and 8 Gm. glucuronolactone given in 4 doses each day, every dose 5 tablets. Each patient received treatment for at least two weeks, a period well in excess of the time necessary for hypoprothrombinemia to develop with the administration of streptomycin alone.

1. W. M. Penny, in *British Med. Jl.*, Oct. 20th.

It is evident that the administration of glucomycin does not cause hypoprothrombinemia.

OBSTETRICS

H. J. LANGSTON, M.D., *Editor*, Danville, Va.

DEATH FROM GIVING ANESTHETIC TO A PATIENT WITH A FULL STOMACH

AN INSTRUCTIVE WARNING report¹ is made by a committee of a State Medical Society:

A 25-year-old gravida 2, para 1, in good physical condition, no history of any serious illness. First pregnancy at age 22, a 7-lb. infant in good condition.

The present pregnancy uneventful. At term patient admitted to hospital in active labor. She had eaten a large meal one hour before labor began: 30 min. after admis. membranes ruptured, taken to delivery room, caput visible a few minutes later. Gas-O-Ether started; patient had no pre-medication.

Fifteen min. later delivered by low forceps, baby in good condition. During anesthesia patient began to vomit, mask removed and much thick, brown fluid and undigested foods; nasopharynx cleared by suction and patient allowed to wake up, soon able to cough and expectorate. She left the delivery room one hour later, well oriented, but still coughing and with slight cyanosis; p. 130. For the next two hours she continued to cough and occasionally vomited.

Four hours after delivery complained of chest pain; r. rapid and labored; cyanotic; moist rales over the entire chest, ant. and post.; p. rapid and of poor quality. Placed in O tent and given atropine sulphate, gr. 1/150 hypo, and 300,000 u. penicillin IM. Five hrs. after delivery, via bronchoscope, much gray, stringy material removed from the r. and l. bronchial trees; condition improved. One hour later again bronchoscope used; condition next 12 h. same; continued to receive O, transfusion of 500 c.c. whole blood. Following day weaker. Despite another bronchoscopy and transfusion became worse; died 36 h. after delivery.

Autopsy: Acute mucopurulent tracheo-bronchitis, due to aspiration of vomitus, and broncho-pneumonia, all lobes of both lungs.

General anesthesia deep enough to abolish cough reflex is contraindicated for a patient with a full stomach.

Do not give deep general anesthesia to patients who have had anything to eat or drink within the last few hours before delivery; stomach must be emptied before giving anesthesia. Better use local or spinal anesthesia under such circumstances.

The belief that a woman must be "asleep" while

1. Maternal Welfare Committee, in *Jl. Med. Soc. of N. J.* Dec., 1951.

having her baby should be rooted out of the public's mind, and the sooner the better.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TREATMENT OF THE COMMON CONTAGIOUS DISEASES

THE LATEST information on important features of management in common infectious diseases as outlined by Lawson.¹

Scarlet Fever and Streptococcal Sore Throat: Procaine penicillin, daily inj. of 300,000 u. for 7 to 10 d. or a stat inj. followed by 150,000 u. orally q. 8 h. There is no evidence that antibiotic therapy is of value once nephritis or rheumatic fever has developed.

Whooping Cough: Hyperimmune human serum, the gamma globulin derivative, or hyperimmune rabbit serum has been used especially for the more seriously ill infants with benefit. Recent studies indicate a decrease of morbidity and mortality when either aureomycin or chloramphenicol is given. Orally 50-100 mg/Kg/day. If vomiting, chloramphenicol may be given by rectum, absorption variable.

Diphtheria: Hemolytic streptococci in association, routine penicillin plus antitoxin. Antitoxin 20,000 to 60,000 u.

Measles: If severe, gamma globulin for the modification if exposure is known. Measles encephalitis, no specific therapy.

German Measles: In first three months of pregnancy danger of fetal damage. Do not shield girls in good health from German measles or boys from mumps. These and chickenpox and measles are more severe in adult life.

Chickenpox: Encephalitis rate. Attempt prevention of secondary infection of the skin which may give rise to nephritis (Bacitracin ointment).

Virus of herpes simplex which causes severe mouth infection in children and cold sores is not related to the virus of zoster, but zoster may be accompanied by a chickenpox-like eruption or may cause chickenpox in a contact.

Mumps: Antibiotics no effect. In prevention and treatment of orchitis, stilbesol of little value. It is not desirable to prevent mumps in boys. Mumps vaccine may be of advantage for protection in troops. Meningo-encephalitis as a complication of parotitis and without other evidence of mumps may be indistinguishable from non-paralytic poliomyelitis.

1. R. B. Lawson, Winston-Salem, in *Jl. Tenn. Med. Assn.*, Dec., 1951.

MAKING ANTIBIOTICS MORE POTENT

MAXIMAL therapeutic activity against mixed infections may be obtained with combinations of

these drugs, while at the same time toxicity is reduced. The development of the newer and less toxic sulfonamides (sulfadiazine, sulfamethazine, sulfamerazine, etc.) has reduced the toxicity hazards and has stimulated more widespread use of combinations of sulfonamides in clinical practice. Combinations of sulfonamides are used in pediatric practice largely, since serious complications, especially periarteritis nodosa and lower-nephron nephrosis, occur in a few adults to whom these drugs are administered. They are now chiefly useful as adjuvants to the antibiotics in severe infections.

Although remarkably free from toxicity, penicillin's limited field of usefulness led to the use of penicillin plus certain of the sulfonamides, to provide a wider antimicrobial activity. Available penicillin-sulfonamide combinations in tablet form for oral use of interest are equal parts sulfamerazine,¹ sulfadiazine, and sulfamethazine, totaling 0.5 Gm.; and 100,000 units of crystalline potassium penicillin G. These tablets have high efficacy against both gram-positive and gram-negative microorganisms known to be sensitive to one or another of the sulfonamides and penicillin; recommended particularly in gonorrhea, pneumonia, mastoiditis, scarlet fever and urinary-tract infections, and as a prophylactic before and after tooth extraction, tonsillectomy, Cesarean section, and minor surgical procedures.

Penicillin-dihydrostreptomycin is now available: procaine penicillin-G 300,000 units, potassium penicillin-G 100,000 units, and dihydrostreptomycin sulfate 1.0 Gm. in one dose. One product contains these proportions of penicillin, with 0.5 Gm. dihydrostreptomycin sulfate per dose.

1. C. H. Mann, Jr., Princeton, N. J., in *Antibiotics & Chemotherapy*, July.

ANTIBIOTICS IN HEART DISEASES

(A. E. Hussar, Tuscaloosa, in *Jl. Med. Assn. Ala.*, Dec., 1951)

Early and effective treatment of hemolytic streptococcal infections with antibiotics may prevent rheumatic fever. Persons who have had a previous attack of rheumatic fever may be protected from recurrent attacks and from subacute bacterial endocarditis by the administration of antibiotics.

Bacterial endocarditis, formerly thought to be a non-curable disease, has become the most curable disease of cardiology. Penicillin is safe and effective in the treatment of cardiovascular syphilis.

Early syphilis, adequately treated with a few penicillin injections, will substantially reduce the incidence of syphilitic heart disease.

CLINICAL NEURO-PSYCHIATRY

ORIN ROSS VOST, M.D., *Editor*, Orangeburg, S. C.

DISTURBANCES OF THE PATHOLOGIC DRINKER

WHEN drinking becomes pathological not all inebriates develop psychoses. Among the physiological disturbances affecting chronic drinkers are irri-

tability, numbness, paralysis, weakness, emaciation, loss of sleep, neuritis, constipation, sexual impotence, malfunction of the liver and stomach, nausea, renal changes, speech disturbances and convulsions. Psychologically, the chronic alcoholic suffers, because of an alteration in the cortical cells, impairment in judgment, attention, memory and reasoning, also gross changes in the personality. He may drift through life, failing to perform his duties, failing to keep his promises, showing uncontrolled behavior, unjustly accusing his mate, even threatening the safety of his own family.

The psychoses which the chronic alcoholic is likely to develop include:

(1) *Delirium Tremens*.—This has an acute onset, and is characterized by intense fear and anxiety, and hallucinations, in which various objects which may be terrifying are seen. The sleepless patient has a rapid pulse with fever, low blood pressure and kidney disturbance. There may be great apprehension, tremor and ataxia. Therapy with thiamin chloride and nicotinic acid is effective. Hydrotherapy and routine spinal drainage should likewise be carefully employed.

(2) *Korsakoff's Syndrome*.—This malady is characterized by loss of memory, delusions, hallucinations and confabulation; severe muscular aches and pains, as well as neuritis in some instances. A deficiency in vitamin B₁ is suspected in this syndrome.

(3) *Alcoholic Hallucinosis*.—This also is a serious disturbance in which hallucinations, not visual, but auditory in which voices, sharp, clear, warning and threatening are heard. There are also delusions of persecution.

(4) *Wet Brain*.—Characteristic are fixed facies, coma, mutterings and a purposeless picking movement of the hands. It sometimes follows several attacks of delirium tremens. The prognosis is poor.

The chronic alcoholic is not to be considered a weak-willed stumbler but rather a very ill person who is, because of some reason not known, incapable of resisting the craving for drink. Alcoholism, therefore, is a problem of major importance and deserves more humane treatment of its victims.

The alcoholic must be treated not only for the purpose of removing his physical discomforts and craving for drink but also for removing the personality disturbance which has caused the pathological drinking.

Distraught by fear, pain, mental and physical waste, he is powerless to help himself. Fifteen years ago, cure of the chronic alcoholic was rare; but today, what with the advent of new psychiatric therapies, more cures and rehabilitations are being effected.

It is necessary that therapy be directed along the lines of (1) personality analysis of each chronic alcoholic in order to determine the factor which

drove the person to addiction; (2) reeducation in order that the patient, after having clearer insight into the disturbing factors of his personality, will be able to direct the course of his life according to more acceptable routines; and (3) the use of medications for implanting an aversion to alcoholic beverages.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

COMPARISON OF THE NEWER DIURETICS

THE newer mercurial diuretics and routes of administration were compared¹ by studying a series of 250 patients for periods of from 2 to 6 months each—two given to the same patients on alternate weeks for from 1 to 3 months. If no reaction occurred after a test dose, 2 c.c. was given each time. The following conclusions were reached:

Mercurial diuretics are more effective when given parenterally than when given orally.

Subcutaneous and intramuscular routes are safer than intravenous, although severe reactions to IV mercurials are uncommon.

Thiomerin manufactured before January 1st, 1950, showed variation in its stability, and many more reactions followed its subcutaneous use than followed intramuscular thiomerin or mercuhydrin. Thiomerin manufactured since has produced few local reactions. The subcutaneous use of the newer thiomerin is often preferable to IM mercurials because it can be given with a smaller needle, it does not produce the occasional neuritic pains seen with IM mercurials, and it can be self-administered in many cases as is insulin.

Mercuhydrin still has an advantage for the physician's bag in that it comes in individual ampules which do not have to be mixed before administration, it does not deteriorate when stored, and it is slightly less expensive. Considerable discomfort is experienced by 4% of patients given mercuhydrin into the gluteus, by 12% if given into the deltoid.

Local reactions will still necessitate IV use in a few cases. Animal experiments would make it seem that thiomerin is the safest by this route, but a subcutaneous test dose of 0.5 c.c. should be given first.

Diuresis is about equal with thiomerin, mercuhydrin or salyrgan-theophylline, regardless of which parenteral route is used.

Of available oral mercurials, mercuhydrin seems preferable, one or two oral tablets a day for milder diuresis or to prolong the interval between parenteral injections. They will cause a diarrhea in a few cases, however, and the incidence is increased if larger doses are given.

1. W. J. Atkinson, Jr., Mobile, in *J. M. A. Ala.*, Jan., 1951.

..THE LOUDLY TOUTED AMMONIUM-ION TOOTH-POWDER NO BETTER THAN OTHERS

AN AMMONIUM-ION DENTRIFICE tested¹ for its effectiveness in controlling dental caries failed to reduce the annual increment of dental caries when its effect was compared with that of a control toothpowder. In no sub-group was there a significant difference between the control and experimental groups. The number of times per day that the powder was used made no apparent difference to this result.

No significant difference due to sex or age was manifest either in the control or experimental groups. In three sub-groups the experimental powder produced a significant change in *Lactobacillus* counts after this powder had been used for one month. In the same three sub-groups this significant change was not manifest at the end of the experiment. At the end of the study period there was no significant difference between the *Lactobacillus* counts of the control and experimental groups.

1. G. N. Davies & R. M. King, Univ. of Otago, Dunedin, N. Z., in *Jour. Dental Research*, Oct.

COMPARATIVE CLINICAL EFFECTIVENESS OF COUGH MEDICATION

(L. J. Cass et al., Boston, in *Am. Pract. & Digest or Treat*, Oct.)

Fifty-two institutionalized tuberculous patients, having in common the symptom cough, served as subjects to evaluate the acceptability and effectiveness of three expectorant drugs; (1) Robitussin*, (2) terpin hydrate and (3) ammonium chloride.

Series of observations were made daily on the patients under treatment with each medication and rated numerically for the purpose of statistical analysis of data.

In all important categories the glycercyl guaiacolate preparation (Robitussin) was significantly superior to the other preparations studied.

It is believed that the greater effectiveness and patient-acceptance of the glycercyl guaiacolate preparation is a reflection of its most marked activity in increasing respiratory tract secretions.

*Robitussin (Robins) contains 100 mg. of glycercyl guaiacolate and 1 mg. of desoxyephedrine hydrochloride in each 5 c.c. (1/2 teaspoonful) or aromatized syrup vehicle.

Every doctor wants and desires to know a better treatment for *celoma* of the lung—

INHALATION OF O AND ALCOHOL FOR PULMONARY EDEMA (Abraham Goonnick et al., Brooklyn, in *New Eng. Jl. of Med.*, Nov. 29th, 1951)

Our equipment is a single tank from which O is passed through an 8-oz. bottle, half filled with 50% ethyl alcohol, with a rubber stopper that holds two large-bore metal tubes. One of these tubes reaches to the bottom of the bottle and delivers O, which bubbles through the alcohol; the other tube is above the fluid level and carries the alcohol-laden oxygen to the meter mask. All sprayers and filters are removed so that loss of pressure is minimized.

This equipment can be easily and inexpensively improvised wherever O therapy is practiced.

This treatment has been effective against pulmonary edema that had resisted all other therapy—rapid digitalization, aminophyllin, morphine, phlebotomy and 100% O under pressure.

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JAMES M. NORWICH, M.D., *Editor*

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

"RESEARCH" BEING DONE AT AND FROM
WASHINGTON

THE FEDERAL SECURITY AGENCY—what a travesty—in the name of Public Health Service—to a great extent ditto—has been dealing out our money with a lavish hand ever since the Roosevelt-Truman gang took charge in Washington. "Research" is one of the shibboleths of these hypocritical, greedy incompetents, who are so ignorant as to believe that by the expenditure of billions all knowledge may be had.

It will interest the intelligent fraction to know what the researchers are undertaking to learn at our expense. Here is a full list of the grants made in the month of September, for "Research" in the nervous and mental field only.

An empirical study of social adjustment, social technique, and personal values.

A study of the role of leadership and the function of the group in group psychotherapy

Sibling rivalry as a psychological hazard

The effect of aging upon the central nervous system—A physiological and psychological approach

Validation of projected need for security

Rooming-in project

Relationship of social structure to psychiatric disorders

Prediction of psychosis in children by means of the Rorschach test

Level of schizophrenic involvement in adults

To demonstrate the inter-relationship between autonomic changes, emotions, and certain cutaneous reactions in normal and pathologic skin

Psychological and anthropological analysis of topical autobiographies of displaced people verbatim recorded in D. P. Camps

A study of electroencephalographic (EEG) phase relationships and their physiological, neurological, psychological and psychiatric significance.

Diagnostic and prognostic significance of prodromal factors in mental illness

Study of the validity of vocational tests in predicting efficiency of mental hospital attendants

A study of the theory of complementary needs

A quantitative comparison of two types of psychotherapy

A preschool project for young mentally handicapped children.

Relation of children's personality factor measures to heredity and environmental circumstances

A research program in schizophrenia and depressions

Anxiety and frustration in human and animal behavior

A study of security of individuals in groups and an experimental attempt to increase the security of insecure members

An investigation of the dynamic processes involved in the "Round-table" method of group psychotherapy

Tolerance for environmental stress in aged and newborn sheep and goats.

Person and situation as determinants of constructive community behavior (The Springdale Project)

Changes in perceptual functions in organic psychoses

Childhood schizophrenia

Survey of laws pertaining to administration of mental institutions.

Basic research in personality structure in relation to the health or disease of the oral cavity

Research conference group on psychosurgery

Community factors affecting the degree of mental health of workers in a defense production community

Cultural components in attitudes toward pain

To study the effects of a teaching program in human behavior and emotional development on children of different age levels and backgrounds

The relation of conditioned response strength to the anxiety aspect of behavior disorders

A field study of children's behavior

A clinical study of the relations of perceptual functioning to personality organization

Investigation of the interaction of social and hereditary factors affecting neuroses and nervous instability in mammals

An analysis of the peyote cult as a social movement among the Navajo Indians

Intensive study and treatment of pre-school children (and their parents) who show marked personality deviations, in some cases amounting to gross impairment of social and intellectual development. Children of psychotic parents included in the study

Psychosomatic study of children, especially those manifesting abnormal growth and development of psychiatric, endocrine, or nutritional origin

An investigation of the use of hypnosis in psychotherapy, and of the nature of the hypnotic state

Study of cerebral function before, during, and after excision of portions of the frontal lobes

Child-rearing in relation to personality development of young children

The role of the psychological factors related to

the menstrual cycle and the sexual life of women in the production of epileptic seizures

Psychosomatic study of hypertension.

The relation of social adjustment to psychological and adrenal cortical reactions to stress

A program for the study of the basis mechanisms underlying perception-personality relationships

Coordination of community mental health leadership: A study of determining factors and techniques for effecting change.

A field experimental study of techniques for changing the group acceptance and social adjustment of deviate members in classroom and camp groups of children

And how did these wise ones figure out amount needed to within \$56 of \$20,000? These lads must be good.

As to the "Hutterites," the "Springdale project" and the "Peyote cult" and a lot more)—I have not been able to find out what they are.

Factors affecting the mental health of workers in mass-production industry

Cultural and psychiatric factors in the mental health of the Hutterites

A pilot study of the differential vulnerability of U. S. male adolescents to threats to safety and career continuity

A study of certain sociopsychological and personality correlates of psychological rigidity

Interrelationships of family and personal adjustments in a rapidly urbanizing community: A study of the family as a unit of mental health

The psychodynamic role of the clinical investigator in studies on measurable physiologic and clinic responses of the patient with hypertension

Promotion of marital adjustment in men and women as an aid to good mental health.

The influence of pre-adult environment on animal behavior and neurosis

Intellectual and other personality factors as determinants of IQ changes under a program of individualized therapy and instruction.

A total of nearly a million dollars of our money—and for what? Read the list carefully. For the fifth from the last of the "researches" the University of North Carolina gets \$15,633, "Community factors affecting the mental health of workers (sic) in a defense production community;" for inquiring into that \$27,864 of our money is handed out. There's not a half-way sensible project in the list, but \$19,944 for "research" on "Tolerance for environmental stress in aged and newborn sheep and goats," gets my vote for prize for idiocy, with \$37,047 for "Roomin-in project," a close second.

THE LINE OF LEAST RESISTANCE

If to do good were as easy as to know what it were good to do, than chapels had been churches and poor men's hostels rich men's palaces.—*Shakespeare*

DR. GEORGE BEN JOHNSTON told his students 40 years ago, "Except for tuberculosis, a lean person has a better chance to survive any illness than does one who is corpulent." An axiom of that time was, "Most men dig their graves with their teeth." Dr. Louis B. Wilson of the Mayo Clinic was wont to conclude his discussion of the diseases of wearing-out, by drawing "the line of least resistance"—a great curved line representing a prominent abdomen.

That overweight shortens life is common knowledge, says the Metropolitan Information Service, and then goes on to report:

A study among more than 50,000 men and women who were charged extra premiums because of obesity showed mortality for the overweight group to be 50% higher than that of persons accepted for standard insurance. Mortality in each sex increased with the degree of overweight. Men with marked obesity had a mortality 79% above standard risks, compared with an excess of 42% for those moderately obese. Among women the excess amounted to 61% and 42% for the marked and moderately obese, respectively.

The excess mortality of the overweight person was most marked for the diseases of the heart and blood vessels; and for diabetes, cirrhosis of the liver, gallstones and appendicitis.

The mortality for tuberculosis was considerably lower in the overweight group than for the standard experience.

Weight control appears to be the most practical means now available of preventing or retarding the degenerative diseases of middle and later life.

Whether or not men and women will pay any more attention to the Metropolitan's wise words today, than did they to the wise words of others 40 (likely 1000) years ago, remains to be seen.

RESPONSIBILITY OF THE GENERAL PRACTITIONER IN THE PUBLIC ASPECTS OF TUBERCULOSIS

MARCY¹ believes that, with increasing knowledge of tuberculosis and a better program, the eventual eradication of the disease as a serious public menace is possible.

The anti-tuberculosis program includes the integration of the services of the general practitioner with diagnostic facilities, tuberculosis hospitals, public health agencies, and educational and financial groups. To meet his responsibility, the general practitioner must be familiar with the broad public health aspects of tuberculosis, be prepared to assume leadership in prevention as well as in diagnosis and treatment, and to cooperate with all agen-

cies and groups in the field. If the general practitioner fails to meet his responsibility, the success of the tuberculosis control program will be in jeopardy.

J. C. H. MARCY, Pittsburgh, in *Pa. M. J.*, Feb., 1951.

EDITOR'S NOTE.—But the general practitioner can not cooperate all by himself. *Co* means with or together. My observation is that, in the warfare against tuberculosis and against cancer, the G. P. is blamed for all that goes wrong, and credited with nothing that goes right. Yet, somehow, year after year, the death rates are lowest in counties all of whose M.D.s are G. Ps.—*J. M. N.*

DELETERIOUS EFFECTS OF ACTH AND CORTISONE

An editorial in *New England Journal of Medicine*, October 25th, which speaks for itself:

THE MARVELS of ACTH and cortisone have now been trumpeted the world over—in the medical and lay press and in extensive and aggressive advertising campaigns. The apparently beneficial results have been extolled and often exaggerated and the ill effects and possible dangers have usually been minimized.

There is an unfortunate tendency to avoid or delay carrying out essential diagnostic procedures until the results of the tests are modified by the effects of the agents that have been administered and the potential dangers are not properly weighed against the possible or illusory benefits that may accrue from the treatment.

In almost all cases the use of ACTH and cortisone in experimental infections, no beneficial effects on the course and outcome of the infections have resulted; more often they have been aggravated and sometimes even rendered much less susceptible to treatment with antimicrobial agents. Laboratory investigations have indicated that these hormones sometimes change relatively innocuous infections into severe and even fatal ones.

In some cases infections have developed while under therapy or preexisting, otherwise benign lesions have worsened rapidly while receiving the hormone. Included in one series were two patients who showed extensive tuberculosis at autopsy although little evidence for it existed during life; other patients with spreading superficial infections that usually are well localized; and one patient with pneumococcal pneumonia discovered at postmortem examination but unrecognized during life.

These workers stressed the point that enhancement of bacterial infections can be a treacherous side-effect of cortisone therapy and must be constantly kept in mind while this substance is being administered.

"Mankind has a great aversion to intellectual labor, but even supposing knowledge to be easily obtainable, more people would be content to be ignorant than would take even a little trouble to attain knowledge."

NEWS

CATAWBA VALLEY MEDICAL SOCIETY meeting, 13 December 51, at Mull's Drive-In Restaurant on U. S. Highway 64, 2 miles of Hickory.

1. Pediatric case report by Drs. DeWitt Trivett and John W. Lafferty, Hickory.

2. Case report by Dr. Jake Shuford, Hickory.

3. "Diagnostic and Research Aspects of Liver Biopsy," by Dr. David Cayer, Professor of Medicine, Bowman Gray School of Medicine, Winston-Salem.

Officers for 1952: President, Dr. Ralph Eli Lore, Lenoir; Vice-President, Dr. Joe W. Abernethy, Hickory; Secretary-Treasurer (re-elec.), Dr. L. A. Crowell, Jr., Lincolnton.

L. A. Crowell, Jr., M.D., Lincolnton, Sec.-Treas.

SEABOARD MEDICAL ASSOCIATION

Dr. J. C. Ramsey, of Washington, N. C., was unanimously elected president of the Seaboard Medical Association at its 56th annual meeting held at Virginia Beach, Dec. 4th-5th.

Dr. James M. Habel, of Suffolk, was elected first vice-president on a ballot vote against competition.

Three other vice-presidents elected are: Dr. P. T. Brinn, of Hertford, N. C., second vice-president; Dr. B. L. Parrish, of Norfolk, third vice-president, and Dr. Edwin A. Rasberry, Jr., of Wilson, N. C., fourth vice-president.

The association voted to accept the invitation of the Beaufort County, N. C., Medical Society for the 1952 meeting to be held at Washington or Morehead City, N. C.

DR. LYNN HEADS BURKE DOCTORS

Dr. C. K. Lynn, of Valdese, member of the staff of the Valdese General Hospital, was elected president of the Burke County (N. C.) Medical Society at the annual December meeting.

Dr. Lynn succeeds Dr. A. M. Lang, of Morganton. Other officers chosen are: Dr. C. L. Walton, of Glen Alpine, vice-president; Dr. Beverly D. Fairfield, of Morganton, secretary-treasurer; Dr. E. W. Phifer, censor for a three-year term, and Dr. Lang and Dr. John C. Reese, of Morganton, as delegates to the State Medical Convention to be held at Pinehurst next May.

THE CARTERET COUNTY MEDICAL SOCIETY held its regular monthly meeting at the Morehead City Hospital the evening of December 10th. Dr. C. S. Maxwell, president, presiding.

Officers for 1952 are: Dr. M. B. Morey, Morehead City, president, and Dr. Luther Fulcher, Beaufort, secretary-treasurer. Dr. N. Thos. Enett, county health officer, continues as corresponding secretary. Dr. B. F. Royal was elected delegate to the State Medical Society. Dr. K. P. B. Bonner, alternate.

Dr. S. W. Thompson, presenting the matter of inviting the Seaboard Medical Society (composed of physicians of Seaboard, Va., N. C. and S. C.), holding its annual meeting in November, 1952, in Morehead City, said that Dr. J. G. Ramsey, of Washington, N. C., is president of the Seaboard Society and that it is customary for the meeting of the society to be held in the home town of the president; but as Washington did not have sufficient hotel facilities, the officers of the Seaboard Society desire to hold the meeting in Morehead City. The Society, by unanimous vote, invited the Seaboard Society to hold its 1952 meeting in Morehead City.

The matter of permanent arrangements for x-ray and fluoroscopic work for the Morehead City Hospital was discussed, final decision to await the next meeting of the

society.

Visitors were Dr. A. L. Daughtridge, of Rocky Mount, and Dr. J. H. R. Bouth, Elizabeth City.

—N. Thos. Enett, M.D., Cor. Sec.

M. ROBERTT LINK, M.D., Diplomate, American Board of Otolaryngology, practice limited to Ear, Nose and Throat and Bronchoesophagoscropy, announces re-location of offices at Doctors' Building, 1012 Kings Drive, Charlotte, N. C.

NICK CARTER CLUB HOLDS FIRST MEETING

The "Nick Carter Travel Club," a group of former Duke Hospital residents, house staff members, instructors, and fellows in obstetrics and gynecology, held its first meeting on December 8th at the new Alamance County Hospital, Burlington. Each of the 55 members present was trained at least one year under Dr. Bayard ("Nick") Carter, chairman of the Obstetrics and Gynecology Department at Duke.

Dr. George Wythe Booth, Rocky Mount, Va., 65, M. C. V., 1925, died at a Roanoke hospital October 25th, after a long illness.

Dr. Joseph Clary Blanton, 83, M. C. V., 1900, died at his home in Richmond, November 12th. He joined the Medical Society of Virginia in 1901 and was made a Life Member at the 1950 meeting. He retired from active practice in 1943 and had made his home in the city since that time.

Dr. Luther Jerrell Head, retired physician of Caroline County, 85, died at a Richmond Hospital November 8th. He was a graduate of the former University College of Medicine, Richmond, in 1903, and practiced until retirement near Penola. He was a member of the County School Board for over 30 years.

DR. HENRY A. CHRISTIAN, speaking of internal medicine (but just as applicable to other specialties), stated that "there is undesirable emphasis placed on investigations as the most important factor in the training of those who are to become in later life physicians and teachers of internal medicine." He added, "Please note that I said physician and teachers, not physicians or teachers, for I believe both need the same form of early training." Further, said this great Virginian-Harvardian: "Publication and the developing of a personal bibliography, besides so often being a major interest to the young man, seems to me to have become almost a game or racket utilizing devices to gain multiplicity of published papers."

Those famous Finns—

ELCTROCARDIOGRAPHIC OBSERVATIONS ON 650 FINNISH ATHLETES
Erkki Klemola, in *Ann. Meditinae Internae Fenniae*, Vol. 40, Fasc. 2 (1951)

Electrocardiographic examinations, in connection with other medical and athletic research, have been carried out on 650 Finnish athletes, ranging from a 12-yr-old swimmer to a 45-yr-old marathon runner, several over a lengthy period.

In 5.5% the P-Q interval was 0.22-0.40, and in 3% the QRS complex 0.12-0.13. WPW syndrome was found with 3 athletes, a right bundle-branch block of Wilson type with two.

An abnormal P wave in Leads I and II was frequently recorded, 10 had a low T and 5 an invert T in Lead II.

In the majority of the cases in which the eeg. finding deviated from the normal, nothing indicative of a pathological state of the heart could be detected.

BOOKS

ANNUAL REPORT ON STRESS, by HANS SELYE, M.M., Ph. D. (Prague), D.Sc. (McGill), F.R.S. (Canada), Professor and Director of the Institut de Medecine et de Chirurgie experimentales Universite de Montreal. *Acta, Inc.*, 5465 Decarie Blvd., Montreal, Canada. 1951. \$10.00 plus 34c postage.

The author says that this book is not meant to act as an abstract journal but as a treatise, to fulfill the dual task of a guide to the entire literature on stress, and of a critical correlator of pertinent facts. He realizes that within the last 15 years, during which the stress-concept has taken shape, and particularly during the last two years since ACTH and cortisone have become generally available, almost every physician has been reading up or experimenting on some phase of this subject. These and other such considerations have induced the author to undertake the publication of this volume, written as a combination of an extensive classified index of pertinent new facts and as a concise textbook-like evaluation of the principal findings.

Certainly no one is better qualified to present the status quo of this subject, of the very first importance, than is Dr. Selye.

CLINICAL LABORATORY METHODS, by W. E. BRAY, B.A., M.D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital, with 119 text illustrations and 18 color plates. Fourth edition. *The C. V. Mosby Company*, 3207 Washington Boulevard, St. Louis 3, Mo. 1951. \$7.25.

This edition of a work which has found ready acceptance over the decade-and-a-half since its initial appearance, includes the many contributions recently made to the practice of clinical pathology, and makes small changes here and there as experience indicates. New illustrations, tables and charts have been added, and the portions dealing with bone marrow findings, the Rh problem, the red blood cell series, the anemias, the mycoses and the antibiotics have been either entirely rewritten or much enlarged.

The book is heartily endorsed as a plainly written, well illustrated text, without padding and redundancies.

TEXTBOOK OF REFRACTION, by EDWIN FORBES TAIT, M.D., Ph.D., Assistant Professor of Ophthalmology, Temple University School of Medicine. Illustrated. *W. B. Saunders Company*, W. Washington Square, Philadelphia, 1951.

In his practice and teaching of ocular refraction the author has become increasingly conscious of the need for a textbook on this subject, including ocular neuromuscular abnormalities, in a form convenient for teaching most undergraduate and graduate students. The present work is designed to meet and indeed does meet such a need. It also meets the

need of doctors in general practice who are desirous of doing refraction work for the vast majority of their own patients, rather than have them go, as the bulk of them now do, to the optometrists.

MANUAL OF MASSAGE AND MOVEMENTS, by EDITH M. PROSSER, T.M.M.G., Trained Nurse and Certified Midwife, Member of Council of Chartered Society of Massage and Medical Gymnastics 1936-44. Sister-in-Charge Massage Department and Principal of School 1930-1949, Continuing Examiner for Chartered Society of Physiotherapy at the Middlesex Hospital, London, since 1928. Illustrated by Miss M. Ruddick. *J. B. Lippincott Company*, E. Washington Square, Philadelphia 5, Pa. 1951. \$5.00.

The author gives as her reason for writing this book a desire to present the subject in as interesting a way as possible. She has had much experience in teaching students the various measures which make up the text, and she has succeeded admirably in presenting the subject in a manner well calculated to cause them to be put into practice. Massage and similar manipulations are among the most neglected of effective therapeutic measures. The reading of this book will certainly cause these measures to be more used, to the great advantage of a large class of our patients.

BIOLOGICAL ANTAGONISM. The Theory of Biological Relativity, by GUSTAV J. MARTIN, Sc.D., Research Director, The National Drug Company, Philadelphia. *The Blakiston Company*, 1012 Walnut Street, Philadelphia 5, Pa. 1951. \$8.50.

Biological antagonism is presented as "a new science, bringing within its scope elements of biochemistry, pharmacology, chemotherapy, immunology, etc." Life, we are told, exists because of biological antagonisms, that there is no single molecular structure which possesses a function not shared by another, even though closely related, molecule.

The phenomenon of protein biosynthesis, long regarded as the essence of biological orderliness, is considered in detail. The sequence of integration and the degree is determined by the fact that all amino acids are antagonistic to one another by virtue of structural similarities.

Offered as points of prime interest are:

Biological antagonism as a dominant factor in biology, as the essential feature of all living things.

Biological relativity as the basis of antagonism and as the concept bringing all living processes within the scope of the physical laws, the laws of statistics and chance.

Biological orderliness is actually based upon disorder which is rendered orderly by the phenomena of biological antagonism.

In this concept, says the author, we have a revolutionary view of biological worlds. It forms the basis of evolution and of every other phase of biology. It is proposed as the underlying principle of

life itself.

The book certainly presents a view stimulating to those who are ever eager to enlarge their understanding of life and living creatures.

ROENTGEN EXAMINATIONS IN ACUTE ABDOMINAL DISEASES, by J. FRIMANN-DAHL, M.D., Ph.D., Chief of Roentgen Department, Ullevaal Hospital, Oslo, Norway. *Charles C. Thomas*, 301-327 E. Lawrence Ave., Springfield, Ill. 1951. \$10.50.

It is said that x-ray examination in cases of bowel obstruction first brought into evidence the possibilities of this method. In many cases it is best that surgeon and roentgenologist make the examination together. There is an excellent chapter on normal findings which includes the consideration of nonpathological variations from the normal. Under general pathological findings intestinal gas and fluid, pneumoperitoneum and free fluid in the peritoneal cavity are fully discussed.

The helpfulness of x-ray examination in the diagnosis of obstructions, hernias, malformations, mesenteric thrombosis and paralytic ileus is emphasized. No great claims are made for the method in the diagnosis of acute appendicitis, acute salpingitis, or in colecystitis or pancreatitis without stone. In cases of perforated ulcer of stomach or duodenum, or of localized inflammation in the peritoneal cavity, the x-rays frequently contribute the greatest part of the information on which diagnosis can be made. The diagnostic usefulness of the method in ruptures of several of the viscera and of lesions of the urinary tract are matters of too general knowledge to need emphasis. The translator has rendered into superb English a scholarly text. The illustrations are so good as to teach their lessons to doctors without special training in this field. There is no exaggeration of the relative importance of the x-ray among diagnostic methods. The claims for the method are put forward in all modesty.

APPLYING STREPTOMYCIN TO LEG ULCERS
(A. K. Monro, in *British Med. J.*, Oct. 20)

In the treatment of heavily infected ulcers of the leg streptomycin applied locally is very potent; frequent application is unnecessary.

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It is doubtful whether even daily injections are necessary. Recently an old sailor attended for a large, foul-smelling, and neglected ulcer of the leg following thrombo-phlebitis, with gross swelling. After application of streptomycin by this method he attended only twice for reinjection. One week later the ulcer was clean, without smell, and all signs of acute inflammation had disappeared.

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